

JANUARY 1995, VOLUME III, NUMBER 1
OS/2 FOR CORPORATE AMERICA



PROFESSIONAL

**Saving the day
during the San Francisco
newspaper walkout**

OS/2 STRIKES BACK!

\$3.95 U.S.
\$4.95 Canada

be standard

Now all your Windows™ worksites can become 32 bit multitasking powersites—thanks to OS/2 Warp, the upgrade that makes Windows™ users more productive. Your systems continue to run smoothly while printing to queue, uploading a file, querying a database. OS/2 Warp lets your computer do all that and much more—simultaneously.

That means the staffer
you support can get back to
work in a flash, and be that
much more productive. It also means
one workstation can do the work of
several, saving your company or your
client new investment dollars.

More productivity, fewer workstations, dramatically less cost—your boss or client will know who to thank.

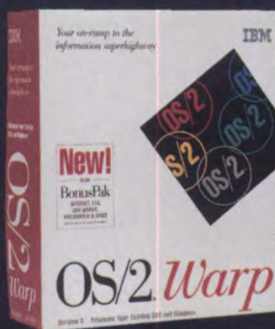
And everything your staffer or client

needs is built right in. Desktop faxing,
a personal information manager,
spreadsheets, word processing,
charting, communications—it's all
built in. Plus everything your staffer or
client needs to cruise the Information
Highway. It's all in OS/2 Warp.

The only thing not in the box is your next raise. But we're working on that too. Because if you order OS/2 Warp now from OS/2 Express, we'll include a Bonus Booklet* worth more than \$300 in

manufacturer rebates and discounts on state-of-the-art native OS/2 apps that will add even more productivity to your Warp worksites.

Call OS/2 Express today and Warp those worksites! Your clients will be so satisfied, you'll have time for important business—like games.



*Now with one button
no-brainer install.*



can equipment.

 AVAILABLE THROUGH
EXPRESS

Call 1-800-OS2-KWIK

***To get the Bonus Booklet worth more than \$300 in rebates, mention the code word "Power Windows" when you order Warp from OS/2 Express.**

This ad was written by Edwin Black in DeScribe 5.0, designed by Elizabeth Black in QuarkXPress, and produced in 48 hours at a cost of under \$1,000, including photography fee and prepress production.

OS/2 is a registered trademark of the International Business Machines Corporation. Windows is a trademark of Microsoft Corporation.

We Run With The Best



O/S 2, SCO UNIX, Windows, DOS and Novell. And we do it faster — up to 22MB/min for simultaneous back-up and verifying through any printer port. We also store more information, an incredible 125MB to 8GIG of data.

More importantly, all our products as well as the accompanying software are fully compatible with OS/2 and:

- Allow OS/2 to be installed from tape, saving up to 45 minutes.
- Work with OS/2 (from version 1.3), LAN Manager and LAN Server.
- Restore under “tiny” OS/2 for fast disaster recovery.

To find out how you can run with the best call 1-800-998-7839



**PSS PARALLELTM
STORAGE
SOLUTIONS**



The Pacesetter in Parallel to SCSI Technology

Corporate Headquarters: 116 S. Central Ave. • Elmsford, NY 10523 • 1-800-998-7839 • FAX • (914) 347-4646

Circle #113

SPECIAL REPORT

18 The Daily Newspaper OS/2 Produced

BY MARCELO RODRIGUEZ

When unionized staffers at San Francisco's two dailies went on strike, the city's readers lost their morning paper. Then OS/2 stepped in to put Herb Caen & co. on-line.

PRODUCTS & REVIEWS

47 DOT EXE

Kelly Shaddrick reviews VisualAge 2.0 and Rick Chapman takes a look at Relish 2.20.

55 MARKETLINE

I-Online's new development tool nears beta, the release of RhinoCom v1.0, and Philips agrees to develop device drivers for CD-I to run under OS/2.

TECH TALK

59 CODE CACHE Managing OS/2 Programs and Sessions

BY CAREY GREGORY

The keys to understanding how to launch one program from within another.

65 THE IS NOTEBOOK Warning: Columnists Prognosticating

BY GORDON SCOTT AND GENE STEELE

A compilation of Warp ideas, hints, tricks, and procedures aimed at increasing users' productivity.

DEPARTMENTS & COLUMNS

9 INPUT Congratulations, criticisms, and observations from our readers.

13 BYTES & PIECES A new developer division at IBM, a news update on the fullpack release, and David Barnes' Warp video.

17 THE WIZARD OF OS/2 Editor Bradley D. Kliever steers you to the ramp off the information superhighway.

29 KOGAN'S KORNER In his new monthly column, Michael Kogan discusses Windows 95 compatibility.

69 BOOKSTAX *Writing OS/2 REXX Programs* is reviewed by Alan Jay Weiner.

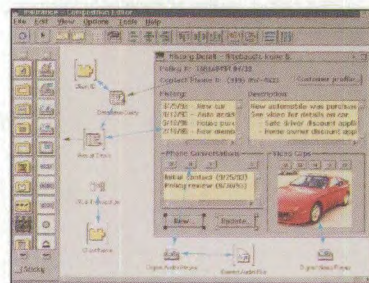
72 THE VIEW FROM CHAOS MANOR The clock is ticking while developers decide which OS to write to.

COVER DESIGN: ELIZABETH BLACK

PHOTO: ANDREW COOPER ©THE WALT DISNEY COMPANY. ALL RIGHTS RESERVED.



PAGE 18



PAGE 47



PAGE 13

Pixelink 120XDS™

Xcellerated Document Imaging Display System

The only document imaging
display system compatible with...

...any operating system...

(Windows®, OS/2®, WindowsNT™)

...any PC bus...

(ISA, MicroChannel, Local, PCI)

...any software...

(no APIs required)

...any colors...

(optional choice of 256 colors or 256 shades of gray)

...any budget.

(upgradeable from gray scale to color)

Now
Shipping
VESA Local
Bus and
PCI Bus

Now
Shipping
OS/2
Version
2.1



The Pixelink 120XDS™ is a high-resolution, two-page display system with highly accelerated performance. By incorporating the Matrox MGA Series of graphics accelerators, the 120XDS provides ultra-high-speed, 64-bit performance on any bus (achieving as much as 12 times the throughput of competitor 32-bit controllers); Windows, OS/2, and Windows NT support; Seamless Windows at 1600 x 1200 resolution; on-the-fly switching of resolution and color depth; and hardware pan and zoom. For more information, or to arrange a demonstration, call (508) 562-4803.



The MGA's control
panel allows you
to easily select a
host of advanced
productivity features.

PIXELINK
CORPORATION

Circle #228

Pixelink Corporation, 577 Main Street, Hudson, MA 01749 • Telephone: 508-562-4803 FAX: 508-568-0514

120XDS is a trademark of Pixelink Corporation. Windows is a registered trademark and Windows NT is a trademark of Microsoft Corporation. OS/2 is a registered trademark of International Business Machines Corporation.

How to contact OS/2 Professional

Letters to our *Input* section are best sent by e-mail to one of the Input addresses below. Please indicate in your e-mail where you live and how we can reach you by phone. Letters can also be submitted by fax (to 301-770-7062) or mail (addressed to *Input, OS/2 Professional*, 172 Rollins Ave., Rockville, MD 20852). Letters should be signed, on letterhead, contain your telephone number and be no longer than two-double-spaced pages. All letters, by whatever means submitted, become the property of *OS/2 Professional* and will be edited for length, content, and clarity. We cannot reply individually to Input letters.

Business, general, or technical inquiries should be addressed to the appropriate department at *OS/2 Professional*, 172 Rollins Ave., Rockville, MD 20852.

E-mail addresses:

Input:

Internet: cdhermillon@bix.com

Bradley D. Klierer:

Internet: bklierer@bix.com

All unsolicited materials are sent at the risk of the sender and *OS/2 Professional* assumes no responsibility for their receipt, storage, or return.

How to subscribe to OS/2 Professional

Subscriptions are \$30 in the United States, \$45 in Canada and Mexico, and \$75 airmail to other countries. Subscriptions may be paid by check or money order, Visa or MasterCard, or billing to a corporate address.

BY E-MAIL. For fastest service, subscription requests may be submitted electronically to the *OS/2 Professional* MCI mail box (560-3615 or os2sub@bix.com)

By phone: Call (612) 823-2657

By FAX. Fax subscription requests w/o cover sheet on a single page to (612) 823-0151. Your request must be on corporate letterhead and include billing and/or credit card information plus a signature and title. Address your request to "New Subscriptions."

By mail. Send check or money order, corporate billing, or credit card information to New Subscriptions, *OS/2 Professional*, 4604 Chicago Ave. South, Minneapolis, MN 55407.

Back issues: Back issues are \$7 each (except issues prior to August 1993 which are priced according to supply). Order back issues by sending check or money order and specifying the issue requested. We cannot accept corporate billing or credit card charges unless the back issue request is part of a new subscription.

Administrative, Editorial & Production Offices: Edwin Black, Publisher and Editor-in-Chief, Alan S. Kay, Executive Editor, Margaret M. Dutcher, Assistant Publisher, 172 Rollins Ave., Rockville, MD 20852, Phone: (301) 770-3333, FAX: (301) 770-7062.

Editor's Office: Bradley D. Klierer, Editor, 4604 Chicago Ave. So., Minneapolis, MN 55407, Phone: (612) 823-2657, FAX: (612) 823-0151, MCI Mail: 470-2447.

Advertising Sales: Richard B. Dubin, Advertising Director, Frank J. Salamone III, Advertising Representative, John Muller, Advertising Assistant, Pinnacle Place, Suite 205, Albany, NY 12203-3409, Phone: (518) 489-4034, FAX: (518) 489-4045.



Publisher and Editor-in-Chief

Editor

Executive Editor

Contributing Editor

Assistant Managing Editor

Assistant Editor

Editorial Assistant

Art Director

Associate Art Director

Assistant Designer

Assistant Publisher

Controller

Advertising Traffic

Administrative Assistants

Advertising Director

Advertising Representative

Advertising Assistant

Correspondents and Contributing Writers

Contributing Artists and Photographers

Production Manager

Production

Director of MIS

Circulation Manager

Circulation Assistant

Data Management

OS/2 Express

Legal Counsel

Edwin Black

Bradley D. Klierer

Alan S. Kay

Michael Kogan

Susan Cooke Anastasi

Claude d'Hermillon, Jr.

Jim Willis

Elizabeth Black

Susan V. Levine

Kirsten M. Gafney

Margaret M. Dutcher

Catherine Honigsberg

Alexandra T. McDonald

Jodi Henning, Jodi Cohen

Richard B. Dubin

Frank J. Salamone III

John Muller

Rick Cook, Todd Crowe,
Carey Gregory, Ken Mackin,
Gail Ostrow, Jerry Pournelle,
Wayne Rash Jr., Gordon Scott,
Marlene Semple, Herb Tyson

Leonard J. Eisenberg, Vickie Lewis,
Kevin Pedicord, Tom Reed,
Rick Stewart, Joanna Wiebe,
Arlene Williams

Brendan Connors

Dan Halberstein, Affiliated Graphics,
Hart Press

Christopher J. Wees

Christine Garwick-Foley

Jose Luis Guzman

DK Micro, MediaAutomation

Jan French, Dan Lake, Richard Schram,
Diosa Sparks, Janet White

Dan Willard, Esq., Washington, D.C.
Thomas Crooks, Esq., Chicago
Arnold Kalman, Esq., Philadelphia
Richard Milian, Esq., Orlando

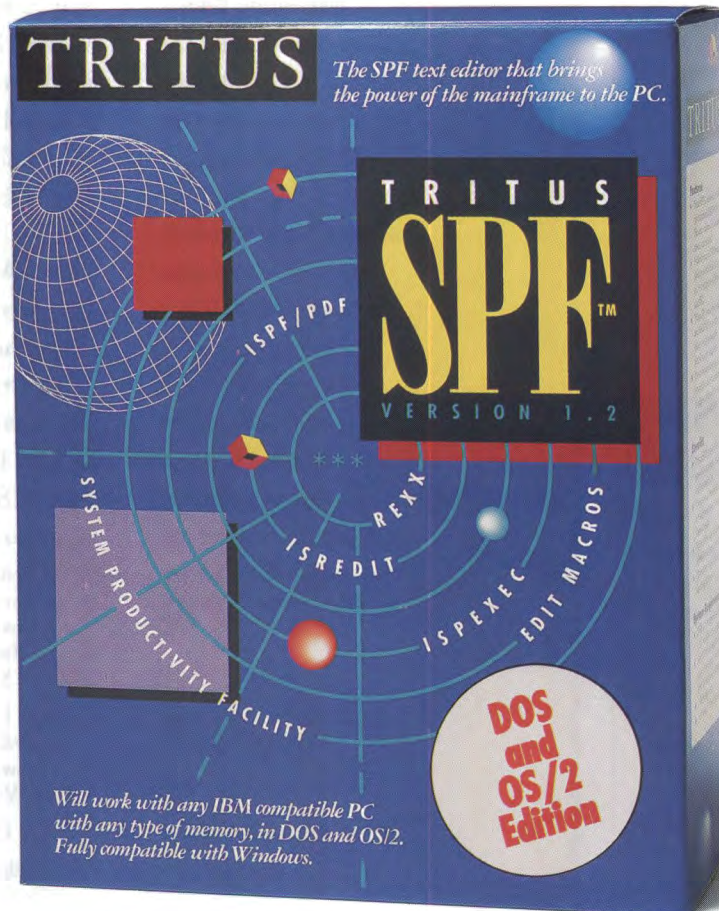
OS/2 Professional is published monthly, except for combined July-August and November-December issues, and mailed to qualified OS/2 users by I.F. Computer Media, Inc. *OS/2 Professional* is an independent publication not affiliated in any way with IBM. OS/2 is a registered trademark of IBM. All other trademarks belong to their respective companies.

OS/2 Professional accepts no responsibility for and will not return unsolicited manuscripts, photographs, artwork, software, data files, evaluation equipment, or computer diskettes.

© Copyright 1995, I.F. Computer Media, Inc.

Printed in the U.S.A.

Tritus SPF[™] 1.2.8 — the Leader in ISPF Downsizing Solutions.



Tritus SPF 1.2.8 sets the standard for cross platform versions of the mainframe editor ISPF/PDF. While others are catching up with our proven code, Tritus SPF implements new features that are identical in operation between OS/2, UNIX, and DOS.

New list management tools allow automated updating of groups of files through the IMACRO facility. Lists can be created by Tritus SPF using new search facilities or created from scratch by the user.

OS/2 32-bit and UNIX versions of Tritus SPF support regular expressions, a powerful method of performing pattern

matching operations on files and records within a file. Regular expressions can be used in FIND, CREATE, and EXCLUDE primary commands, including edit macros. They are also valid as search strings in the search facility.

Many other features have been included such as SORT pop-up boxes, case-insensitive sorts, integrated keyboard testing, and startup-shutdown exits. All features work the same regardless of the operating system since cross platform technology was built into Tritus SPF over three years ago.

Tritus SPF 1.2.8 is available now and includes over 650 pages of documentation. Call for your ISPF downsizing solution.

TRITUS

Tritus, Inc., 3300 Bee Caves Road, Suite 650 • Austin, Texas 78746-6663 USA
(512)794-5800, 1-(800)321-2100, Fax (512)794-3833

AVAILABLE THROUGH
OS/2 EXPRESS

Circle #65

Great Team, Wrong Goal Post

Many, including *OS/2 Professional* and even senior executives at IBM, have given OS/2 six months to prove it can compete with Windows 95. But, perhaps we're all focusing on the wrong measurement of success.

First off, counting boxes is the wrong approach. The latest number IBM itself is touting for the Windows installed base is 60 million. That means OS/2 will never catch up. Forget it! Windows has too massive a head start. OS/2 can double its numbers again in the next year, as it has in the past few years, but it will always lag behind due to the historical fact that Windows is preloaded on most PCs.

Sure, we can batter the statistics as well as anyone. We know, for example, that those 60 million Windows users include hundreds of thousands of OS/2 users who don't use Windows at all, but whose OS/2 2.x includes Windows code. I have more than a dozen of those stations right here in my office.

Then again, IBM's OS/2 figure of six million is inflated and that's a fact. Those of us in the OS/2 mailing list business know that many people are counted twice and thrice because they have updated from 2.0 to 2.1 to Ferengi to Warp and IBM doesn't remove their duplicated names. We also know that at many sites OS/2 remains uninstalled.

IBM counts users the way the Chicago Democrats used to count voters. So does Microsoft. One thing is clear, however—in any numbers war, now or a year from now, OS/2 loses.

Looking for big name apps is also the wrong way to measure success. *OS/2 Professional* Editor Brad Kliwer has said, "Do you want famous, or do you want good?" At *OS/2 Professional* we have opted for good. Hence, we cover with equal vigor any OS/2 vendor who reliably produces a quality application regardless of whether that vendor is an honest basement entrepreneur, or a major software developer conglomerating from the 40th floor of a high-rise.

Waiting for Borland to create an OS/2 version of Paradox, or

Lotus to gets its knee-braced Ami Pro up to snuff is just like spitting in the wind.

Instead, we should all support quality native apps such as PCX's BackupWiz, MultiNet's Pmcomm, and DeScribe. The real yardstick needs to be whether these OS/2 apps are up to the demands of OS/2 users, and we should withhold enthusiasm until they are. But in many cases, they've arrived, and deserve our support. OS/2 now has a reliable word processor, excellent utilities, good communications software, superb graphics packages, and several effective back-up programs. By focusing our attention on quality

native apps, we create a realistic perspective for the operating system and encourage further native development.

Most of all, we need to ask whether OS/2 must be the most numerous OS or the best OS. Kliwer's challenge is good or famous? My append is: quality or quantity? I am reminded of the city of Chicago, where I grew up, and the suburbs, such as Evanston. The suburbs were a better place to live and they offered a good quality of life that attracted many. But Evanston and other suburbs never pretended to compete with Chicago's economy or size. By concentrating on

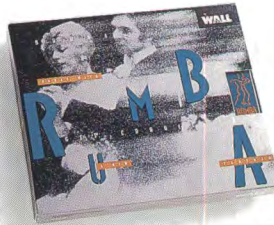
realistic goals aimed at those who lived, worked, and shopped there, Chicago suburbs thrived. Maybe OS/2 should become an affluent suburb of Chicago?

Indeed, why must OS/2 compete with Windows, except that it drives an obsession that IBM can't let go of?

Even if we adjust the six million figure downward, we know that the OS/2 installed base will soon exceed that of Macintosh. Although the Apple platform numbers are stagnating, that community is self-contained, independent, and happy. What's wrong with an OS/2 installed base of 10 million that seeks not to conquer the world, but to carve out a better place in which to dwell? Then we could spend all our efforts ensuring that the quality of OS/2 life continues to outperform anything Microsoft has to offer. ♦

Edwin Black





This is the time to catch your breath.

Because while Communications Manager/2 will keep your OS/2 system true Blue, it'll also keep you crying the blues about host interaction—with complicated setup, just plain boring displays, and virtually no connections with your PC-based programs.

RUMBA® for the Mainframe OS/2, on the other hand, gives you direct, friendly, easy access to all your host applications.

YOU CAN KEEP WAITING FOR IBM TO OFFER A VERSION OF CM/2 THAT DELIVERS EASY HOST-TO-OS/2 CONNECTIVITY. OR YOU CAN RELAX.

For instance, with RUMBA for the Mainframe OS/2 you can link host data to OS/2 or Windows applications for automatic update.

Tie Hotspots to host text for running point-and-click macros.

Run macros or workstation applications from the QuickStep pad. Do drag-and-drop file transfers from the OS/2 Workplace Shell. And customize host application displays for a true OS/2 look, feel, and operation.

Plus, you get resident APPC, CPI-C, EHLLAPI, TCP/IP, and Novell SAA Gateway support. A convenient graphical floating toolbar. And a user interface that's the same for OS/2, Windows, and NT operating systems.

So whether you currently use CM/2 or are thinking about installing it, if you're looking for productive host-to-OS/2 connectivity don't hold your breath. Speak out.

Call **1-800-48-RUMBA**. Get your free demo disk or evaluation copy. And hook up with the one host-to-OS/2 connectivity program that lets you breathe easy.

RUMBA for the Mainframe OS/2.
From Wall Data...naturally.



Wall Data, 11332 N.E. 122nd Way, Kirkland, WA 98034-6931, (206) 814-9255
Fax (206) 814-4344 ©1994 by Wall Data Incorporated. All rights reserved. RUMBA®
and the Wall Data logo are registered trademarks of Wall Data Incorporated. All
other product names and trademarks are the property of their owners.

OS/2 AVAILABLE THROUGH
EXPRESS

Circle #255



Comments, criticisms, and observations

What campaign?

The Warp advertising campaign sucks. The TV ad is fun—but I've only seen it once and that was two or three weeks ago. The magazine ad is awful. I was looking for it in *PC Magazine* and flipped right past it. I only found it by looking in the advertiser index. The blurbs in the ad are too "inside." I've been an OS/2 for Windows user since the product came out and I didn't understand what the blurbs were trying to say. The stockbroker/crash, photos, and power windows references are just confusing.

There is almost no retailer advertising of Warp. I've searched for ads and have only found retailer ads in two places: a direct mail catalog from Egghead Software and the *New York Times*. I haven't seen a single ad in the *Washington Post* or other D.C. media. CompUSA also advertised Warp in the *New York Times*, but on November 20, the Alexandria, Virginia CompUSA was selling only OS/2 for Windows.

Edwin Black may have had a good time at IBM's launch party, but I think he may have inhaled too much smoke and stared too long at the mirrors. An "impressive launch" it ain't.

Tom Bradley
Alexandria, Virginia

Here's just another example of the incredible obtuseness rampant at our favorite \$60 billion whipping boy. On the same day I received the November issue of *OS/2 Professional*, I also got the Nov/Dec issue of *Beyond Computing: Integrating Business and Information Technology*.

Guess what? Not a single advertisement for Warp. How stupid can these people be? *Beyond Computing* is a periodical from IBM Magazines with an IBM-centric slant, marketed to IBM customers, and it has nary a word about a product that elsewhere IBM is promoting to the tune of millions of advertising dollars. Even the editorial content, which owes a lot to the

infomercial concept, eschews mention of Warp.

Am I missing something or are these people complete idiots?

Michael Downing
Hatboro, Pennsylvania

Which version?

What is the actual difference between the different versions of Warp? I am currently running 2.11 with Novell DOS Requesters. Since I must have a system that will work on a Novell LAN, does this mean I have to purchase the LAN version of Warp?

Also, I've been told that the current version runs on top of Windows much like OS/2 2.1 for Windows. I really hope this isn't true. The original OS/2 for Windows was a huge mess, and prone to consistent lock-ups and failures. I re-installed my copy 10 times before purchasing the full OS/2 2.1 version. This version hasn't ever given me any problems. Furthermore, I have a multitude of Windows apps in the WIN-OS2 segment of my current version. What effect will the new version have on these programs? Do I need to purchase the full version of the software?

IBM still apparently doesn't understand it's the 2-10 person shop that will either put OS/2 Warp on the map or not, and *not* corporate America, which has never pushed an operating system to its limits. Therefore, why are the prices for this system so outrageous? Upgrades for existing users should never exceed \$40. I don't care how flashy the new system is. If I have to spend \$250 per workstation to upgrade, then my people and I will do without. When are the people in charge of this mega launch going to wake up and realize this?

Fred Brattain
via CompuServe

We have clarified some of the issues regarding the different Warp versions in this issue of OS/2 Professional. In short, you

do not need the LAN Client version of Warp to attach to a LAN and the current shipping copy of Warp is essentially the replacement for OS/2 2.1 for Windows. The core of all Warp versions will be the same. What you get from the different versions are value-added packages with features such as WIN-OS2 on Full Packs and/or the latest LAN Requester versions and utilities on the LAN Client. The current version of Warp will not install over a full (Borg) version of 2.1, so you must wait for the Full Pack version of Warp unless you reformat your drive or modify some key files on your current OS/2 boot drive using instructions provided by OS/2 Express or through the WinGrate program.—Bradley D. Kiewer

Biker beef

I am writing to protest the image you used on the cover and on the inside pages of the November issue [*The Warp Speed Road Warrior*, Special Report].

As a responsible adult motorcyclist, it really gets my goat to constantly have to battle the long haired, unhelmeted, leather-clad "road warrior" image that seems to come to hand so readily in the media. The vast majority of motorcyclists are safety minded riders who take every precaution in equipment and education to minimize risks to themselves and others.

You have done us all a serious injustice by using the stereotyped "biker outlaw" image on your cover. I hope you will have the decency to print an apology to your two-wheeled readers.

Harv Stewart
McGaw Park, Illinois

In response to your letter, Harv, I am a professional, an OS/2 professional, but not an outlaw biker. Please turn to pages 40-43 of the September 1993 issue of OS/2 Professional [In the Fast Lane with OS/2, User Profile] and you will get a better understanding of who I am. I'm a proud backer of IBM and OS/2, and yes, a motorcycle enthusiast who rides an

Why wait? WinGrate.

Tired of waiting for IBM to release the WIN/OS2 version of Warp 3.0 you need to update 2.1? WinGrate by DK Micro is the definitive Windows migration software, available exclusively through OS/2 Express.

If you already have a copy of Microsoft Windows and OS/2 2.1, WinGrate eliminates much of the complicated, time-consuming file editing and reconfiguration when installing WARP without Windows over OS/2 2.1.

**OS/2 Express Price.....\$10.00
or \$5.00 with any purchase of Warp without Windows**

WinGrate by DK Micro



Call 1-800-OS2-KWIK

INPUT

American-made Harley Davidson motorcycle.

I am offended by the stereotyping you have just done with me, exactly like that which you blame on the media. My wife of 17 years and I enjoy riding my 1947 Harley Davidson that I bought in 1982. Yes, I do wear black leather over my black slacks and OS/2 T-shirt when I ride to work because the temperature at 5:30 AM in Washington state is in the 30s. I have worked in PC Support at the Hanford Nuclear Plant since April 1991. Remember, that was the same month OS/2 2.0 went beta, and I was one of the first beta testers.

Where is it written that "long-haired, unhelmeted, leather-clad" equates to being unsafe?

As far as my views on wearing a helmet, it should be my choice where or if I wish to wear a helmet, just as it is my choice to operate my computer with DOS,

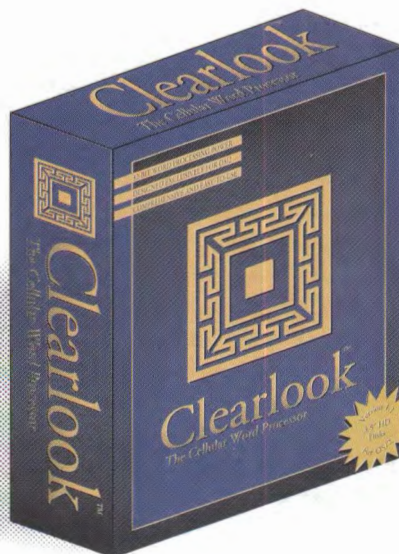
Unleash The Power of OS/2 !

*Users Say . . .
"No other word processor can
match the speed of Clearlook"
"An excellent adaptation of the
strength of OS/2"*

**Clearlook™ -
The Cellular Word Processor™**
Fast and designed exclusively for 32-bit OS/2. Clearlook provides multi-threaded performance for immediate response. Its unique document structure delivers unparalleled flexibility.

Features include:

- Flexible Format Control via unlimited number of text areas and text cells with a simple use interface -- Just pick the text object and move it, size it, change it, clone it or place it !
- Always see your document as is, a single view mode, one user interface - with sizing from 20% to 1200%.
- Powerful text transformation feature for mail-merge, envelope printing, tables-of-content, and indices.



*"Clearlook gets five stars easy"
"A strong contender in the
OS/2 arena"*

- Multi-lingual spell check and thesaurus in the same document. Languages: US English included, with UK English, German, French, Spanish, and Italian on request.
- Fast and compact code -- Designed in state-of-the-art, object-oriented technology. Requires only 3 MB of hard disk space.
- Create auto numbered footnotes as you write.
- And some call it OS/2's first desktop publisher !

**Order Today
1-800-818-LOOK**

Tel: 703-425-1163
Fax: 703-764-3746

\$199 SRP \$495
Mastercard / Visa
Limited introductory offer !



PO Box 11219 • Burke, VA 22009-1219

INPUT

Windows, or OS/2.

The professional world of computers need not be filled with Yuppie, "non-American bike" riders in three piece suits. We are individuals. Live free, ride free, and use OS/2.—Pat Murphy, Richland, Washington

Letter from IBM

Your OS/2 Warp launch coverage dramatically captured the atmosphere at IBM in Boca and Austin during the weeks and days preceding the launch. The good news is that the long hours, tough decisions, and hard work are paying off. OS/2 Warp is selling out in retail outlets around the world. Leading OEMs are announcing their plans to preload it—in fact, Germany's two leading manufacturers will be preloading OS/2 Warp exclusively in 1995. New ISVs are committing to develop applications that run on it. And Galactic

Civilizations, the first commercially available game for OS/2 Warp, is one of the three most popular game titles on the Net PC Games Top 100. Our marketing guns are loading and firing, and so far, we're on target. Your October issue was, too.

Jo Ann Sager

IBM Personal Software Products
Austin, Texas

Warning! Bad drivers ahead

I am concerned about the various hardware incompatibilities I find when working with OS/2. I recently purchased a Zeos system with a Diamond PCI Stealth 32 video card. I then purchased BackMaster from MSR. I now find myself in a situation where MSR is telling me that there are problems with the Diamond card and OS/2.

When are you going to warn us of these problem devices? You should

publish warnings about vendors who make products with OS/2 incompatibilities. In the meantime, I've wasted two months fooling with BackMaster and still haven't found a successful backup.

Mark Famous

Street, Maryland

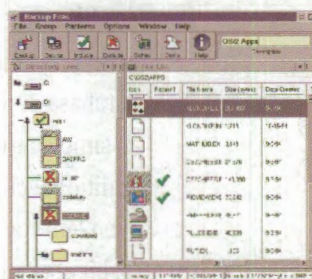
Letters to our *Input* section can be sent by fax (to 301-770-7062) or mail (addressed to *Input, OS/2 Professional*, 172 Rollins Ave., Rockville, MD 20852). Letters should be signed, on letterhead, contain your telephone number and be no longer than two-double-spaced pages. Letters can also be submitted via the Internet to cdhermillon@bix.com. Please indicate in your e-mail where you live and how we can reach you by phone. All letters, by whatever means submitted, become the property of *OS/2 Professional* and will be edited for length, content, and clarity. We cannot reply individually to Input letters.

Back Again/2

Simply the best backup software
for OS/2 Warp...

Featuring:

- 32-Bit / Multi-Threaded
- HPFS Support
- Extended Attributes
- Averages 2:1 Compression
- Built-in Scheduler
- Command Line Restore
- Password Protection
- SCSI Tape
- Floppy Disk
- LAN



Back Again/2 Pro \$149.00
Competitive Upgrade \$79.00
*Back Again/2 Personal \$35.00

Price does not include shipping & handling
Call Today

(612) 730-4156

Fax: (612) 730-4161
BBS: (612) 730-4157

Now Available
Version 2.01

**Computer
Data Strategies***

PO Box 25123 Woodbury, MN 55125

*Does not support SCSI Tape Drives

Available through OS/2 EXPRESS

Circle #252

DO YOU SUFFER FROM ARRANGEAPHOBIA?

The Fear Of OS/2's Infamous Arrange Command

**Get Over It
With XFolder**



Take the trauma out of positioning icons where you want them. No more guessing where icons will go when OS/2 arranges them. XFolder eliminates random ordering.

Arrange & align icons into row, column, or perimeter layouts. Position all or selected icons. Multiple levels of "undo". Save favorite layouts.

Get over it, call today!

The Desktop Company

1404 Durwood Drive • Reading, PA 19609

(610) DESKTOP or (610) 337-5867

Available through OS/2 EXPRESS

Circle #273

January 1995 OS/2 Professional 11

Now Available
for OS/2 Warp
Native 32-Bit



**Wouldn't it be great
if one tool could do it all?**



**We thought so.
The MMI to SCADA
to CIM Solution.**



Real 32-Bit True Client/Server. Our free disk tells the story.

Intec Controls 55 West Street Walpole, MA 02081 Tel: 508-660-1221 Fax: 508-660-2374
Intec Controls Ltd. P.O. Box 33 Chichester, W. Sussex England PO20 7DW Tel: 0243-532763 Fax: 0243-530672

Circle #192

Don't Settle for Just MMI

Some software products provide a good operator interface, but leave you searching for answers when you need more. Paragon TNT is the single solution that handles all your applications: from basic MMI, to supervisory and direct control, to complex plant-wide CIM. With one tool for all your jobs, operator training is reduced, system maintenance is simplified, and integration nightmares are eliminated.

The Scalable Solution

Paragon TNT is an exact fit for your application, no matter how simple or complex. Each of Paragon TNT's clients and servers can operate independently, yet they work together in any combination to form a fully integrated system – either on a single station or distributed across a network.

For Today, for the Future

Can your automation software easily adapt to new requirements? With Paragon TNT, you won't run out of gas. Adding new capabilities like supervisory control or relational database support is as simple as enabling additional clients and servers. TNT even lets you migrate to the newest 32-bit operating systems, without having to scrap your existing application.





BYTES & PIECES

News and trivialities, important and obscure



Whither Warp?

Following its less than stellar launch, Warp appears to be gaining converts. Press

reviews have improved and preload agreements are starting to proliferate. During fall Comdex in late November, PSP General Manager Lee Reiswig claimed to have sold 100,000 shrink-wrapped boxes since the product's release a month earlier. He also reaffirmed IBM's pledge to sell five million units by year's end.

Yet as IBM heads into 1995, attention is starting to shift toward the version of Warp intended for current OS/2 2.x users—the "fullpack."

At press time the product, which will be sold in a blue-spined box and incorporates the Windows 3.1 code that IBM licenses from Microsoft, had entered gamma testing. "Since the only differences involve Windows compatibility and the installation," explained PSP spokesman Rob Crawley, "the standard beta tests weren't required."

Although the product had yet to enter production, Crawley in early December continued to maintain that gold code would be ready by the end of this month. He hedged on a firm ship date, however, saying only that the fullpack would likely ship "sometime in February." Observers expect it to be priced at about \$200.

One of the most interesting reports surfacing about the fullpack is the suggestion that this release will finally incorporate peer to peer networking capability—technology that has been in beta testing for the last year, and that is considered critical to establishing Warp in the small office/home office marketplace.

Meanwhile, IBM has also been at

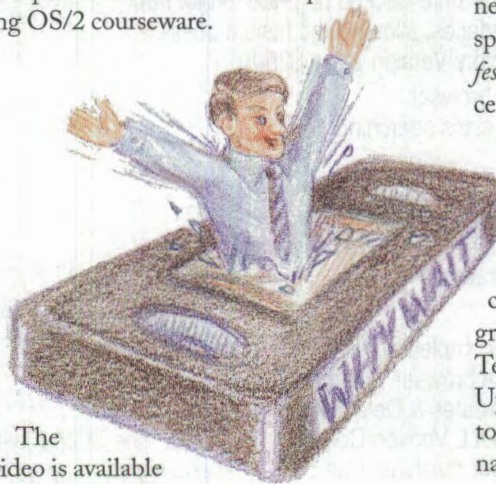
work on LAN client and server versions for both the Windows version of Warp and the fullpack. Currently, IBM says it expects to ship the client versions of Warp, which will incorporate the requester software for LAN Server and NetWare, in late March or early April. Sources say that the server versions, Warp/LAN Server bundles, may not be ready until sometime in the second quarter.

Barnes on tape

IBM is seeking to leverage the wacky marketing antics of David Barnes by releasing to the general public a Warp video originally targeted toward resellers and distributors.

The 68-minute video, produced using beta code and called "Why wait—sell OS/2 Warp," features the man who became known on the PC circuit as "Mr. OS/2" for his showmanship and his vigorous advocacy of the operating system.

The Barnes video is more than a compelling sales pitch for OS/2, though—it is also a lesson on how to educate about a software product, and IBM will exploit that by making a limited number of copies available free to companies interested in developing OS/2 courseware.



The video is available through IBM's Media Center in Atlanta at (800) 456-1426, and through the Independent Vendor League at (203) 384-9996.

New developer division at IBM

In its newest reorganization, IBM has moved its developer relations operations out of PSP and other divisions into a single consolidated division to be known as Software Developer Support. SDS will coordinate developer assistance programs across all IBM platforms, including OS/400, AIX, and OS/2. The entire OS/2 developer assistance operation under the baton of John Harrington has been merged into the unit. The new division will also stage IBM conventions, such as the OS/2 Technical Interchange and the Technical Update.

The reorganization dovetails with Big Blue's realization that the key to a credible showing in its duel with Windows 95 and Windows NT will be applications—and the ISVs who develop them.

Exiting from the meeting planning business will be Verna Wright and Paul Wilkenson of PSP in Austin. Wright and Wilkenson invented the standard for OS/2 Interchanges. They also staged the first IBM Technical Update, attended by some 2,000 people, at NetWorld+Interop in Atlanta last fall. The next Technical Update will be held at spring Interop in Las Vegas. *OS/2 Professional* will hold its Update awards ceremony at the event.

The creation of Software Developer Support ends a long-running feud between the Austin and Boca Raton meeting planning offices of IBM. The high point of the feud came when politics forced the Austin group to rename its meetings from Technical Interchange to Technical Update, allowing the Boca Raton group to be the sole IBM unit using that name.

Created late in the fall, Software Developer Support is so new an organization within IBM that even by year's end, division sources were unsure if the

Simple enough for an end-user yet powerful enough for a techie!

CLEAR

PERFORMANCE PLUS

version 3

PLUS

A Tuning and Utility Kit for OS/2 Warp & 2.1

Features New Simple Interface (GUI)

- Config optimizer packed on one screen
- Emergency boot disk or partition
- Workplace shell desktop backup
- Graphic measure and report programs

New Utilities—same simple interface

- DOS/Win application optimizer
- Bitmap viewer simple drag & drop
- Swap Monitor audible warning
- Automate file backup & more

Tuning book revised for Warp

- New DOS tuning section

BONUS: Extra diskette filled with spectacular OS/2 bitmaps

\$39.95



Simple

Clear & Simple, P.O. Box 130, West Simbury, CT 06092
(203) 658-1204 • FAX (203) 651-0354

Available through OS/2 EXPRESS

Circle #116

BYTES & PIECES

division would retain its name or be renamed Software Developer Operations.

German PC maker leaves Microsoft behind

Vobis Microcomputer AG, one of Germany's largest PC manufacturers, is giving Warp a big boost in the European preload market. Having already agreed to a three year contract to preload OS/2, the company last month publicly ended its relationship with Microsoft.

Vobis, which controls 40 percent of Germany's PC market, will not renew its contracts for operating systems with Microsoft, which expired Jan. 1st. Vobis said Microsoft had been charging it license fees on the sale of all PCs manufactured by its licensees, regardless of whether DOS/Windows was installed.

But the company's critique of Microsoft covered more than its licensing practices. Theo Lieven, Vobis's chairman, pulled no punches in describing the situation: "After years of faulty developing and quasi-monopolization, Microsoft's 16 bit operating systems are stagnating at a low innovation level while still being sold at an excessively high price."

Microsoft is playing down reports that there has been a breakup between the two companies, and has denied Vobis's charge that it placed anti-competitive demands on PC manufacturers. ♦

SOM

The Object Factory—IDL (Version 2.0)

The first OS/2 SOM tool continues to expand SOM development with the introduction of version 2.0. This feature-packed upgrade forges new ground in state-of-the-art OOUI interfaces, allowing the fastest possible SOM development. The Object Factory Version 2.0 is \$250.

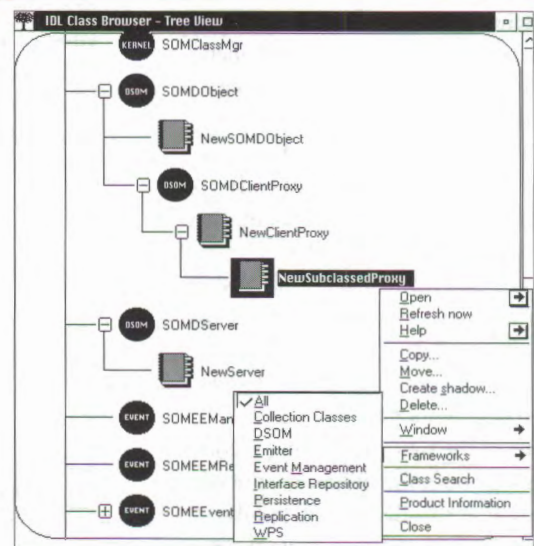
- Full-functioning SOM class browser
- Framework filters & Global class searching
- Complete IDL support
- Supports multiple inheritance
- Includes all SOM 2.0 classes and methods
- User-customizable class development environment
- Drag-drop backups & restorations

Also available from Synaptec:

The SOM Class Administrator — a complete runtime SOM administration utility presented in a heirarchical tree browser with the following features: Registers & Deregisters Classes, Creates & Deletes Instances, Optimizes System Performance and Handles DLL Version Control & Upgrades. The SOM Class Administrator is \$79.99.

You never knew what was inside your machine! Can be used stand alone, or as an integrated component of The Object Factory.

Call (404)942-8699 for ordering information.



5085 Forest View Trail Douglasville Georgia 30135 (404)942-8699

SYNAPTEC, INC.

Available through OS/2 EXPRESS

Circle #274

**The shortest distance
between computers isn't a
straight line, it's two lines.
So we created MultiCard.®**

2 lines, two functions

and simultaneous operation. Introducing MultiCard®
from Apex Data, your next step in mobile productivity.

MultiCard® combines a high speed data/fax modem and
Ethernet adapter in one card. Connect the modem to the
phone jack, the Ethernet adapter to the LAN and you're wired
into a new generation of notebook computing.

MultiCard® is made for multi-tasking. Log on to any on-
line service without logging off the network. Send and receive
faxes while perusing your E-mail. And for those of you with single
PCMCIA slot notebooks, we just doubled your productivity.

MultiCard® comes to you ready to run with
data and fax software from SofNet. Plus drivers for
OS/2 LAN Server, Novell and DOS/Windows.

MultiCard® is truly the next step in mobile
computing. And when you work with Apex Data,
you can be sure it's a step in the right direction.



COMPAQ
Qualified
Solution



*To find out more about two lines being better
than one call 1-800-841-APEX*

TechBridge Builder
Version 1.1 for OS/2
NOW AVAILABLE
Introductory Offer until Jan 31, 1995

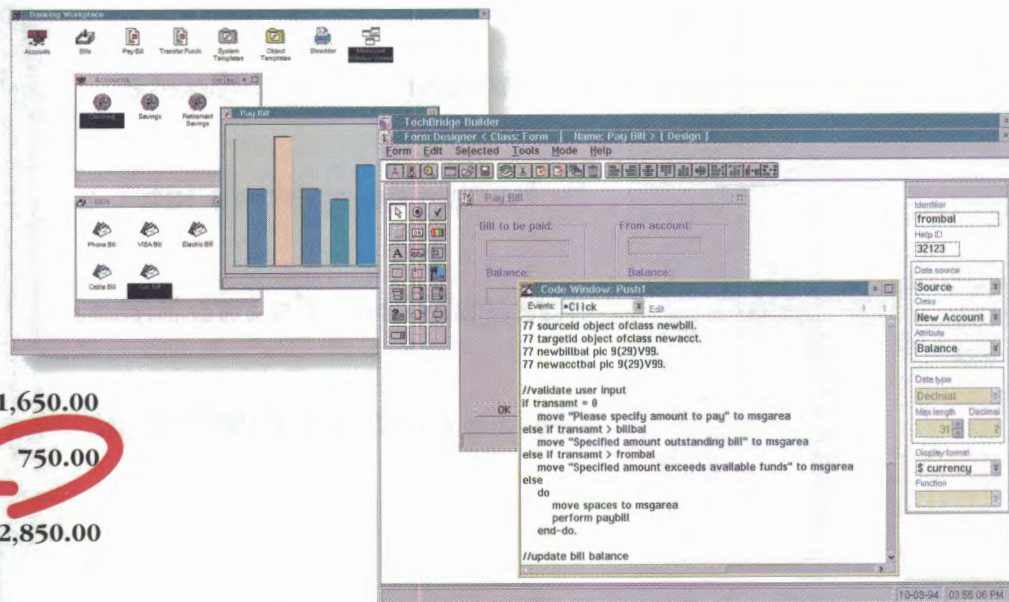
Introductory Offer

• Enterprise Edition \$1,650.00

• Bronze Edition **\$ 750.00**
(Local DB2/2 access Only)

Regular Price \$2,850.00

Royalty-free runtime



TechBridge makes Client/Server Development *Easy*

Your application is only a few mouse clicks away

Easy POINT-AND-CLICK TIES GUI FIELDS TO DATA

Automatically connect GUI fields to your database, and you have a form that can view and update data. Or import table definitions and let us auto-design a quick form for you to do query or present the data in 3-D business charts. Access DB2/2 and the whole DB2 family through DDCS/2; or Oracle 7 or 50 more data sources through EDA/SQL middleware. With *Techbridge Builder* you can do all this, with just drag-and-drop, point-and-click and absolutely **NO CODING** because so much is **AUTOMATED**.

Easy VISUAL DEVELOPMENT

Place a pre-defined control group from your reuse library and attach business logic or context sensitive help. Double-click to preview. Design a modal dialog or an advanced OOUI workplace with point-and-click. Use drag-and-drop to tie your objects together into an application, then let our packager produce the executables for you.

Easy SCRIPTING

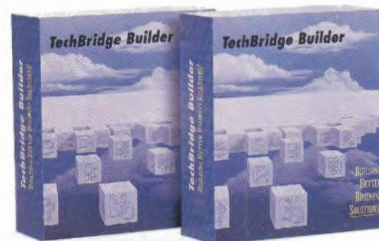
Double click on a form control and enter an event driven script, e.g. Multiply Principle by Interest giving Amount. Yes, it's just COBOL. Click to compile it. Click again to test it. Click to invoke the debugger. Iterative rapid development? You bet!

Easy OBJECT TECHNOLOGY

With *TechBridge Builder* you get a complete set of classes, the practical building blocks that you can tailor to build your application. Supporting these classes is a framework with over 700 base classes and 24,000 methods - a knowledge base of technology like CUA '91, SQL, PM, and human factors. Don't waste time crafting your own framework, build on ours and jump right into building applications that meet your specific needs.

Easy ON YOUR SYSTEM

The minimum system requirement is an 8M OS/2 machine with 10M of free disk space. It's LAN enabled.



1-800-463-8998



**TechBridge
Technology Corp.**

Circle #265

TechBridge Technology Corp. 5001 Yonge St., Suite 1301, North York, Ontario, Canada M2N 6P6 Phone: (416) 222-8998 Fax: (416) 222-0168
Prices and specification are subject to change without notice. Price does not include freight and taxes where applicable. Prices quoted in US dollars. TechBridge, TechBridge Technology and TechBridge Builder are registered trademarks of TechBridge Technology Corp. ©1994 TechBridge Technology Corp. All other brand and product names are trademarks or registered trademarks of their respective companies.

Off Ramp from the Information Superhighway

BY BRADLEY D. KLIEWER

The pundits have proclaimed 1995 the year of Internet, and for the first time in recent memory IBM has actually anticipated a major industry trend by marketing OS/2 Warp as your on ramp to the Information Superhighway. As neophytes rush headlong onto the highway, will they manage to keep control over their 28.8kbps speedsters? If so, will they miss some wonderful scenery along the side roads?

At times, the Internet can be an unfriendly place. If you're easily offended, your first glance through the newsgroup lists with entries such as *alt.binaries.multimediaerotica*, *alt.barney.dinosaur.die.die.die*, *alt.sex.bestiality* (and various combinations of the aforementioned) may keep you from proceeding any further.

If you continue, a list of more than 20,000 messages in an area such as *comp.os.os2.advocacy* may strike you as unmanageable. When reading busy newsgroups, following a "thread" of related messages takes a modicum of skill. If, as a stranger in this strange land, you should happen to breach the rules of "netiquette," you may very well wind up in the center of a flame war as other users demean your intelligence or vent their frustrations.

Their frustrations, I hasten to add, are very real. Novice and expert alike have had to get used to watching their productivity wane as they find themselves having to wade through screen after screen after screen of off-topic chatter.

I've often complained of the low signal to noise ratio in many areas of the Internet. But to focus on the problems is to lose sight of the benefits and the joys. As the staff at *OS/2 Professional* has increased its publishing-related activities, we've begun to rethink our strategy for on-line presence. We're turning off the main highway and concentrating our activities around a quiet neigh-

borhood where we can more effectively manage the business at hand. Those who watch our masthead may have noticed that we've quit publishing our CompuServe and MCI Mail addresses in favor of BIX (owned by Delphi Internet Services, which also runs the better known Delphi service). BIX connects to the Internet and we publish our e-mail addresses in Internet form. We expect that taking the off-ramp will improve our productivity while allowing us to remain connected.

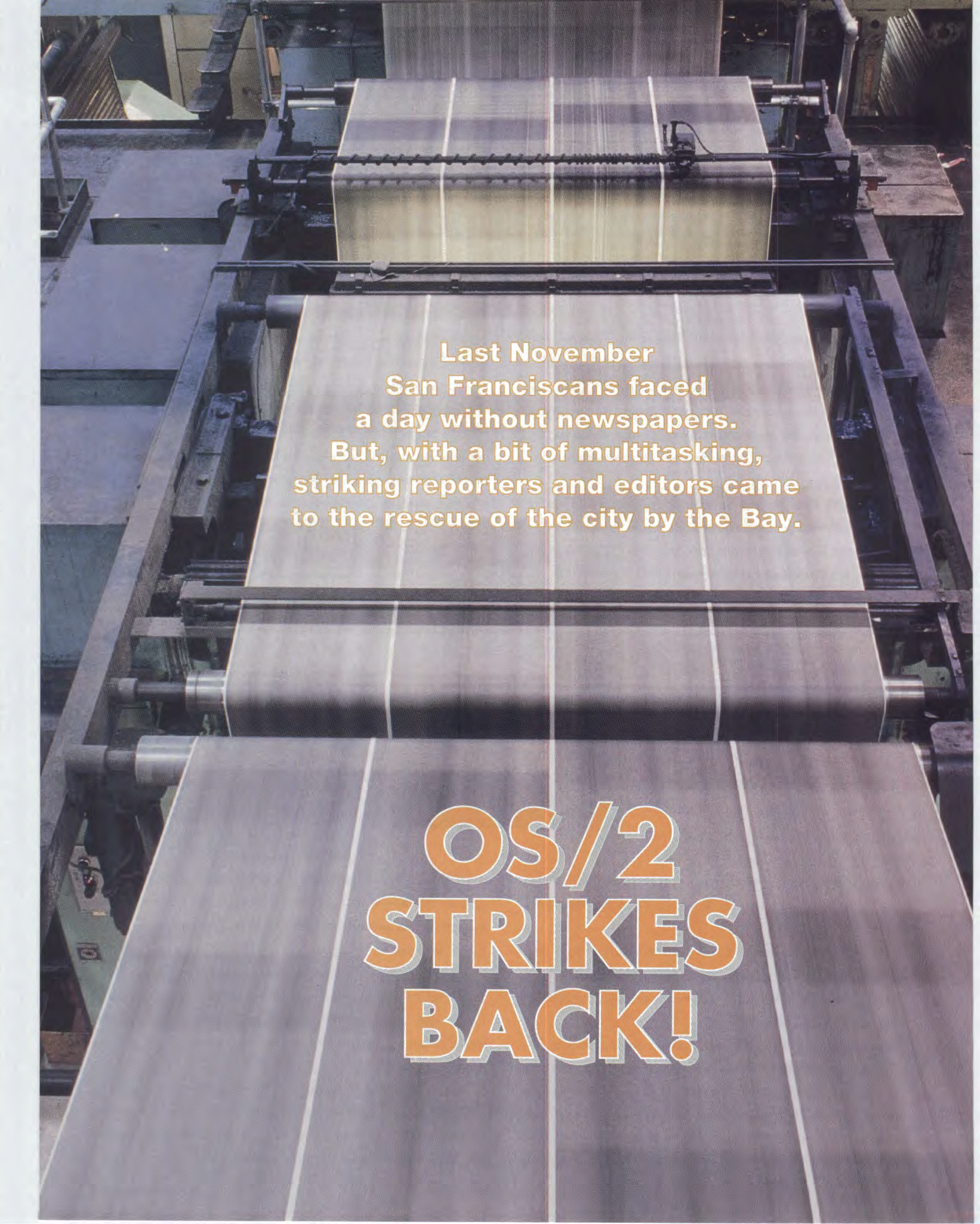
The beauty of the Internet is that we can stay in touch with the world from the comfort of our electronic home. We will continue to travel to other locales, such as CompuServe, the Internet news groups, and the World-Wide Web. Each has its own unique mix of personalities and resources. More importantly, expert help is often just a few keystrokes away. In most cases, the problems you are facing will have been successfully solved by other members of the worldwide electronic community. If you manage to meet in cyberspace, you may cut hours or days off your troubleshooting tasks.

BIX is rife with talented computer professionals and aficionados, as are a number of other on-line services. What is key for us, though, is that productive discussions on BIX are far less likely to get drowned out by noise.

It's not perfect—BIX has its own conferences, its own flame wars, and its own idiosyncratic user interface. However, with a smaller user base, the problems tend to be less frequent, the communications load more manageable, and hence the experience more pleasant.


As you explore the Information Superhighway, we encourage you to find quiet neighborhoods that you can claim as your own. Perhaps we'll even see you on BIX. (For information on BIX, call 1-800-695-4775 or e-mail info@bix.com.) ♦



A photograph of a paper mill with large rolls of paper being processed by machinery. The scene is industrial, with metal frames and rollers visible. The paper has a light brown or tan color.

**Last November
San Franciscans faced
a day without newspapers.
But, with a bit of multitasking,
striking reporters and editors came
to the rescue of the city by the Bay.**

**OS/2
STRIKES
BACK!**



SPECIAL REPORT

While Boca Raton and Redmond are contending over whether OS/2 is the operating system for everybody, a group of journalists in San Francisco can attest that OS/2 was the operating system that helped end a strike and the technology that kept news-hungry readers satisfied.

In the process, OS/2 proved it can be a critical tool helping any group—corporation, small business,

The daily newspaper
trade association,
governmental unit, **OS/2 produced**
or nonprofit—to manage a crisis by creating its own
instant on-line publication.

Page One

Early November was from the public's point of view the worst possible time for a newspaper strike. The NBA basketball season was starting in two days, but the Warriors still hadn't signed Chris Webber, last season's rookie of the year. The general election loomed a mere six days away. Polls indicated that public opinion on Proposition 187, the draconian anti-immigrant measure on California's ballot, was tightening. Would the nationwide Republican wave also roll over the Golden State? Would a little-known Texas oil millionaire named Michael Huffington unseat California Senator Dianne Feinstein?

BY MARCELO RODRÍGUEZ

SPECIAL REPORT

On the morning of Wednesday, November 2, there were no answers to these questions available with the morning coffee. Some 2,600 workers at the morning *San Francisco Chronicle* and afternoon *San Francisco Examiner*, which share non-editorial functions through a third company, the San Francisco Newspaper Agency, had gone on strike the night before.

I made my way to the two newspapers' offices to commiserate with several dozen of my colleagues who were on the picket line. "Couldn't you have waited till after the election to walk?" I kidded one.

She shot back, "If you miss the newspaper so much, why don't you help us produce one?"

Page Two

Alas, there's no Undo button for the human voice—no way for me to take back my casual inquiry. So by lunchtime, Bruce Koon, a striking associate editor at the *Examiner*, and I were co-editors of the *San Francisco Free Press* on-line daily edition. We also had all of 18 hours to put out our first issue. But first we had to create the newspaper—to design a virtual news product that would make sense to a reader used to the black-and-white-and-read real thing.

What we had to accomplish in that three-quarters of a day was formidable: We had to find a local Internet provider with a server that would store the megabyte or so of newspaper files for each day we would be on-line. We had to create a design for the on-line paper and develop the graphics content. We had to put in place a system of story assignments and editing tai-

lored to a constantly changing virtual news product and set up e-mail routing to ensure that the right stories got to the right editors and then onto the pages of the newspaper. And we had to pull it all together by programming our available computing resources—a single PC—to act as the main engine behind the newspaper.

Step one, getting a server for our web site, was easy. My Internet service provider, CCNet Inc. of Walnut Creek, California, agreed to supply an account and space on its Sun server. (For a larger organization or one without a friend in the Internet access business, this task will likely be a bit more expensive, but Internet access is readily available and increasingly cost-effective.) It was step two that almost killed the *Free Press*.

Most journalists—like the employees in your company—know zilch about computers. And what most wordsmiths know is DOS and Windows based. So despite my personal commitment to OS/2, I figured that I had better produce the newspaper using an operating system people were familiar with.

There are a number of low-cost and even free programs available for Windows that together can manage the complete Internet experience. The plan Koon and I hastily cobbled together was to have stories arrive continuously via Eudora for Windows e-mail,

have two or three telnet sessions open to the server to perform story placement and cut-and-paste operations, keep Microsoft Word version 6.0 fired up for basic editing and hypertext markup language (HTML) coding, and use Netscape, the most advanced Windows web browser, to have the paper itself on screen at all times.

HTML coding a story

The top of a typical HTML coded file looks something like this:

```
<TITLE>A sample page</TITLE>
<H1>A look at an HTML-coded page</H1>
<H3>HTML coding is simple to understand, but difficult and tedious to execute</H3>
<H4><b>By Marcelo Rodriguez</b></h4>
Putting together the <i>San Francisco Free Press</i> would have been a lot more difficult without OS/2.<p>
OS/2 allowed us to be journalists by freeing us from entering all of these characters between the less-than and greater-than signs by hand.<p>
```

When viewed through a Web viewer, the above would look like this:

A look at an HTML-coded page

HTML coding is simple to understand, but difficult and tedious to execute

By Marcelo Rodriguez

Putting together the *San Francisco Free Press* would have been a lot more difficult without OS/2.

OS/2 allowed us to be journalists by freeing us from entering all of these characters between the less-than and greater-than signs by hand.

SPECIAL REPORT

Just try to run any two of the above at the same time in Windows! It was a laborious exercise in futility. Six hours and more than 50 General Protection Faults later, I gave up on Windows in frustration. I might have to teach a neophyte or two OS/2, but at least—come rain or GPF—the newspaper would get out.

Beta level though it may have been, Warp worked like a clock. We used native OS/2 programs (such as Semware's Qedit for OS/2) to automate the process so that the tedious task of coding was almost eliminated. The File Transfer Protocol (ftp) and telnet programs bundled with IBM's TCP/IP for OS/2 version 2.0 permitted concurrent file transfer operations and blindingly quick cut-and-paste jobs over the modem. The clunky but effective version 3.0b of Lotus's Ami Pro for OS/2 served well as an all-purpose editor. IBM's WebExplorer, a browser still in beta that is available free to Warp owners, allowed us to have the newspaper on screen at all times, with a simple press of the "F5" key instantly displaying the changes we made.

Page Three

Designing a Web document is simply a matter of creating a plain text file that includes markup tags that tell a browsing program residing on the reader's terminal how to display the text. (The top of a typical HTML coded file is pictured at left.)

Designing a newspaper for the Web is several steps more complex, requiring some tough decisions of the kind that would face any organization circulating a newsletter, short term newspaper, or briefing tool. In our case, we were forced to make two major compromises.

One involved layout: current HTML technology does not allow the creation of a text page with typical newspaper pagination—that is, with every page bearing more than one story laid out in columns. To mimic the seven-story front page of your local daily, we would have to abandon the use of HTML altogether and instead use graphical representations of each page. Also, the

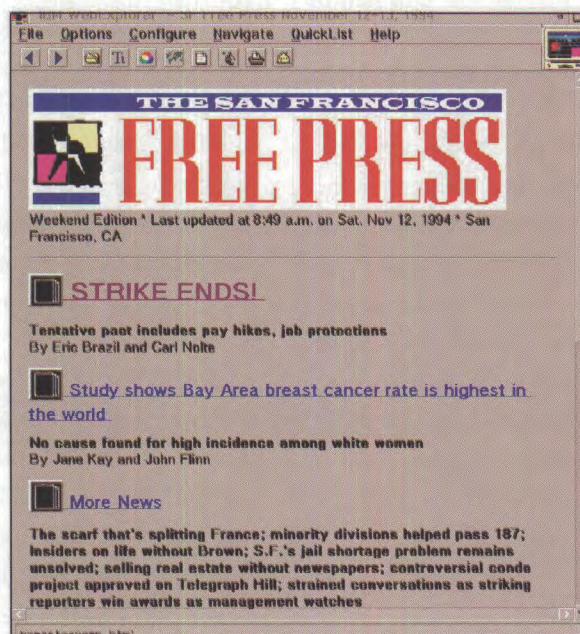
majority of readers log in via relatively slow modems, so the extensive use of photographs (which can take several minutes each to transmit over a phone line) can make the reading experience unnervingly slow.

Faced with the pressures of time and resources, we created the closest thing to a "real" newspaper—sans pictures—that we could. The front page carried the *SF Free Press* logo, the day's major headlines, teasers to "inside" stories, and direct links to the front page of the sports, arts and features, opinion, and business pages. We wrote the headlines and subheads with enough information to offer the reader a *USA Today*-type news digest, and these display elements were themselves links to more comprehensive stories on the subject.

The other, tougher decision was how much hyperlinking to do. One of the strengths of the Web technology is that it allows materials residing on computer systems dispersed around the globe to be combined on a single Web "page." We knew we could provide "links" from our stories to background stories, source documents, and other materials at hundreds of other Web sites. But identifying the sites where we could link to, say, government documents, library materials, or sound bites of recent record releases required a great deal of additional work, as the result of which we'd be pointing our

readers to information that we could not guarantee was accurate. In addition, external links can slow response time for the reader—and, worse yet, provide a one-way door out of our pages with no intuitive way back in.

We therefore chose to keep external links to a minimum and our Web site as self-contained as possible. Most stories had only a single link at the end, to take readers back to the page they came from. When a reader finished a film review, for example, a link took him or her back to an Arts&Features page that contained a



The on-line San Francisco Free Press allowed readers to get breaking news—in this case, the end of the strike.

SPECIAL REPORT

half-dozen or so other entertainment stories. Some pieces also offered sidebars that were available at the click of a mouse.

Because we did not have access to any wire services, sports results were the single regular exception to the external link ban. At the touch of a button, readers could visit Starwave Corporation's Satchel's Sportspage, an extraordinary site that provides the current results for all major U.S. sports, including games in progress. On Election Day, November 8, we also provided a link to the California secretary of state's office, where Digital Corporation had developed a Web site that offered real time election results as the votes were being counted.

If we'd had more time, more money, or even more energy behind the *Freep* (as we came to call it), we could have produced a newspaper that offered readers several levels of amplification and background material for each story. If you find yourself doing a project like this, be sure to explore the universe of data files—text, data, graphical, sound, and video—that your readers will find useful.

If done by hand, the labor-intensive connect-the-dots gyrations needed to maintain the few links in each edition of the newspaper (only about a hundred or so) would have required more computer-savvy volunteers than we had on hand and would have inevitably led to human error and “broken links.” Fortunately, a single multitasking 486-based PC with 16mb of memory and a Microcom Despot Fast 28.8kbps modem running OS/2 Warp did 90 percent of the heavy lifting. The result was a remarkably quick-to-browse newspaper: Even on a 14,400kbps modem, full-color pages would appear on the reader's screen a second or two after a click of the mouse.

Page Four

Building the *Freep* required that our section editors (one each in News, Arts&Features, Columns, Sports, and Business) have only a bare minimum of computer knowledge. Once the content editing was complete, the section editor put on top of each piece a headline and a lengthy and descriptive subhead to each story. He or she also made sure that the crucial line spacing needed for automatic HTML coding was in place: the headline had to be the first line of the story, followed by two carriage returns, then the subhead and two carriage returns, then the byline and two carriage returns, then the story with each paragraph separated by two carriage returns. The story would then be e-mailed to the OS/2 machine (orig-

inally a 286 clone that has, like Topsy, grown over the years to become a 486DX2/66) in my closet-sized home office in San Francisco's Bernal Heights district.

As each file arrived, I loaded it into Ami Pro for OS/2 for a final edit, then saved the story as a text file, ready for HTML coding.

Qedit for OS/2, a wonderful text editor by Semware, did all the dirty work. Qedit has an option to load a text file in binary mode. It also is a highly programmable editor that allows macro programming on the fly. By the second day of production, I had all the Qedit macros to convert our stories to HTML written, debugged, and in place.

Each type of story (news, arts, business, etc.) had its own macro. When invoked, the macro would look for two adjacent instances of the ASCII code for a carriage return/line feed combination, identifying the text that preceded it as the headline. It would place the point size HTML codes before the headline, and the switch to turn off the point size after the headline. Then it would look for the carriage returns delimiting the subhead and byline in the same manner, placing the unique formatting codes before and after each. The macro would then move on to the end of each of the paragraphs in the body of the story, placing the all-important “<P>” that web browsers need to know where to place a blank line (hard carriage returns and line feeds are ignored by web browsers.)

That done, the macro would then jump back to the beginning of the story and place five lines of heading code preceding the headline. Then it would jump to the end of the piece and place the ending code, including the link to the icon (one of several small GIF files representing each section of the paper) and a link to the main section page. The coding was accomplished by a native OS/2 app while the other processes in this virtual publishing shop were running as well.

Coded, the piece was ready to be placed into the current issue of the *Freep*. In another window, a small REXX script automatically invoked TCP/IP's file transfer protocol and uploaded the file to the appropriate directory on CCNet's server.

Now the piece was ready for the final step in the publishing process. Running from the server in an open telnet window, a simple 12-line Unix script read the headline and subhead, asked what type of story it was (news, business, columns, sports, etc.) and where in the section it should go (the lead story first, followed by the others in order of importance). The script

SPECIAL REPORT

then automatically inserted the icons and HTML coding on the section page.

Each morning, the main framework for the day's issue was put in place by repeating the steps for each of the stories. In all, it took less than two minutes from the time editing was completed on each story for it to be available on-line. Over 11 days, a total of some 220 stories were moved in this way.

As news developed and stories needed to be changed, it was simply a matter of opening up a second telnet window and using the mouse to paste the new information onto the original story. At least five separate windows at a time were each giving the operating system and the modem a strenuous workout, but OS/2 did not stop to catch its breath even once. The TCP/IP protocol allowed a file transfer and a cut-and-paste operation to flow through the modem concurrently without a discernible loss of speed.

It turned out that OS/2 was essential to the *Free Press* in a way we had not anticipated: it allowed us to work off-line to meet our tight deadlines. That's because the HPFS support for long filenames within OS/2 allowed us to do on our PC the work of embedding the hypertext calls Web viewers use. Those hyperlinks take the form of Unix filenames with .HTML suffixes—a naming format DOS/Windows does not support. Had we stayed with the Windows system, we would have had to insert those links, one by one, on-line via the Unix Internet server, testing each link as we went.

Page Five

By all accounts, our local daily newspaper on the World Wide Web was a remarkable success. More than 250,000 people read the on-line edition of the *Free Press* during its 11 days "on the air." The effort was reported on at length by the *New York Times*, *Newsweek*, the *Boston Globe*, *CBS News*, the *BBC*, and dozens of other media.

The *Free Press* not only became a national news story, it broke one

of its own (Senator Feinstein's previous use of an undocumented immigrant as a housekeeper, though her campaign ads were attacking challenger Huffington for doing the same thing). The "paper" provided a steady stream of up-to-the-minute news and sports results, timely film and television reviews, and gave readers the much-missed work of popular columnists such as Herb Caen, Jon Carroll, Rob Morse, and Stephanie Salter. We received more than 1,000 e-mail messages, many of them urging us to keep the *Free Press* alive even after the strike was over.

At 4:30 am on the morning of November 12, management at the two papers and the nine striking unions reached an agree-

ment. News of the settlement broke initially on the *San Francisco Free Press* on-line edition less than ten minutes after negotiations ended. It was the paper's lead story that day and, because the technology allowed it (and *Free Press* reporter Eric Brazil—now back at the *Examiner*—waited outside the negotiating room at City Hall), the *Free Press* managed to beat every radio and television station in town with the day's hottest news.

Page Six

It isn't likely that news delivered on the Internet is going to replace the printed newspaper altogether—at least not any

time soon. It's difficult to read a computer screen over breakfast, or to flip through virtual pages on a laptop in a crowded bus. (Not that the major newspaper companies aren't trying hard to make the technology work.)

But an on-line newspaper is able to offer the reader some advantages its paper-bound sibling can't: the ability to easily archive stories and to travel from stories to other related information on the rapidly growing network.

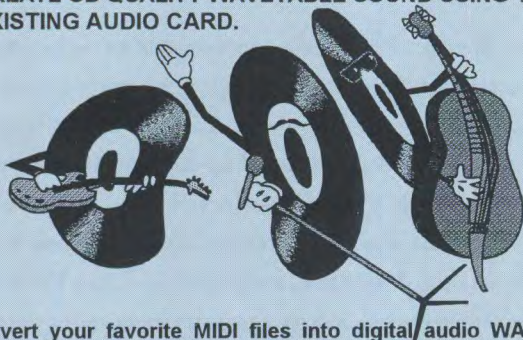
If nothing else, our experience with the *Free Press* demonstrated that it is possible, with minimal effort and money, to respond to a crisis or a strategic opportunity by using OS/2 and currently available IT tools to create a viable on-line publication. The sit-



An ever increasing number of dailies are available on-line—in this case, the London Telegraph.

MIDI Renderer™

CREATE CD QUALITY WAVETABLE SOUND USING YOUR EXISTING AUDIO CARD.



Convert your favorite MIDI files into digital audio WAV files! Use MIDI Renderer's 200 MB of 16 bit, 44Khz General MIDI (GM) instrument samples, stored on CD-ROM, to bring your files from boring to awesome. This software synthesizer allows, for the first time, playback of all 128 GM instruments simultaneously. Thus, full orchestration capability is at your hands. MIDI Renderer is perfect for reviving your **Sound Blaster compatible** sound card and livening up any Multimedia presentation.



To order call
1-800-365-6134
DOS-Windows-OS/2

DiAcoustics
555 Sparkman Drive Suite 600-F
Huntsville AL 35816
205.722.0490

Circle #212

Available through OS/2 EXPRESS

Industrial strength native OS/2 PM Communications.

When you outgrow the "lite" weight software and need heavy duty communications solutions, the software of choice is RhinoCom.

RhinoCom is reliable, versatile, friendly, and uses native PM Code to maximize the benefits of OS/2.

Please call 1-800-234-4546.

RHINOCom™

Reliable OS/2 Communications

MSRP \$199. VISA & MC.
8835 Columbia 100 Pkwy,
Columbia, MD 21045
Phone: (410) 730-2575
FAX: (410) 730-5960

 **Rhintek**
Computer Engineering
Developing System Software since 1977.

Circle #271

SPECIAL REPORT

uation can be a legislative moment of opportunity and the vehicle a lobbying guide, a personnel issue for which HR staffers need guidance and resources, or a fast-developing market opening that requires reorienting sales and marketing staff.

And our experience shows that if you build an on-line product that is informative and readable, the people will come. The product need not be a newspaper with a staff of well-trained reporters and editors. Any individual or organization that wants to make information widely available to an on-line audience that by all accounts is growing geometrically can do so at minimal cost. The possibilities are endless, and this tactical response is relatively simple and cost effective.

But there are also a couple of downsides. An on-line publication cannot at this stage of the technology replace the ink-on-paper printed version—too small a percentage of the readers of the traditional product have the equipment needed to get on-line. In a sense, web publishing is at the same stage VCR technology was in its infancy: there were a growing number of tapes out there for people to pop into their VCRs, but initially few people had the VCRs. When the content available on tape became attractive enough and equipment prices dropped, VCR sales soared.

The most exciting aspect of on-line publishing is that the technology is already highly accessible, and it continues to improve. OS/2 Warp, with its Internet Connectivity Kit, offers most of the software a wannabe publisher needs in a single box. With the prices for a connection to an Internet service provider plummeting (in most urban areas, an individual can purchase an account for less than \$20 a month with unlimited calling privileges and five megabytes of disk space), on-line publishing is affordable to anyone with a computer.

As with almost anything involving computers, when it comes to on-line publishing, faster is better. It is possible today to publish the virtual equivalent of a glossy magazine, complete with highly defined color photographs. But even at today's highest modem rates, the 28.8kbps of a v.34, it is difficult to read such a product.

Nonetheless, we are on the verge of a new telecommunications revolution, one through which the modem will become obsolete. Already telephone companies around the U.S. are offering Integrated Services Digital Network (ISDN), which can offer transmission speeds in excess of 112kbps. According to Pacific Bell, more than 80 percent of the households in California already have access to ISDN telephone technology. In addition, cable networks around the country are rushing to provide coaxial Inter-

SPECIAL REPORT

Publishing on the Web

The best way to learn on-line publishing on the World Wide Web is to use IBM's WebExplorer to travel to the sites below.

To get WebExplorer, install the Internet Access Kit (IAK) that comes with the OS/2 Warp BonusPak. You'll need to get an account with an Internet service provider, or follow the directions that come with IAK to get an introductory free account with IBM's *Advantis* system.

Once you are connected to the Internet with IAK, double-click on the Retrieve Software Updates object in the IBM Internet Connection for OS/2 folder. One of the choices that will come up is to get the latest version of WebExplorer. Double clicking on this option will download the appropriate files and install Web Explorer on your system.

Now you're ready to cruise your way through the Web. Point yourself to the sites below to get up to speed on HTML authoring.

A Beginner's Guide to HTML:

<http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html>

Ian Graham's Guide to HTML:

<http://www.utirc.utoronto.ca/HTMLdocs/NewHTML/htmlindex.html>

The HTML Quick Reference Guide:

http://kuhttp.cc.ukans.edu/lynx_help/HTML_quick.html

Hyper Text Markup Language Specification:

<http://info.cern.ch/hypertext/WWW/MarkUp/MarkUp.html>

Composing Good HTML:

<http://www.willamette.edu/htmlcomposition/strict-html.html>

HTML Design Notebook:

<http://www.hal.com/~connolly/drafts/html-design.html>

Also, now that you're on the 'net, start following the USENET group called comp.os.os2.networking.tcp-ip for all the latest on OS/2 and networking.

One interesting new software program for OS/2 that helps take the tedium out of HTML authoring is HTML Wizard for OS/2, which is now in beta testing (downloadable from many OS/2 BBSs or via ftp from hobbess.nmsu.edu). This nifty little text editor allows you to highlight text with your mouse and then insert the appropriate HTML tags by clicking on a button. ♦

NATIVE 32-BIT

OS/2 WORD PROCESSING

WITH

DESCRIBE® 5.0



1994 Best New Product
DeScribe 5.0

\$299 DeScribe 5.0 SE

Subscription Edition includes upgrades and support through 12/31/95, plus DeLights CPU monitoring utility.

\$159 DeScribe 5.0 CX

Standard Edition includes Free installation support and access to Pay Support Services, plus DeLights CPU monitoring utility.

To order Call:

DESCRIBE, INC.

1-813-732-5500 End User Sales

1-916-646-1111 Reseller Sales

Circle #7

AVAILABLE THROUGH
 OS/2 EXPRESS

THE DEFINITIVE Marketing Guide For Software Publishers

Whether you're a product, brand, or marcom manager, and whether you've just developed your first program, or you hold a dominant market position, the steps required to get your product into the hands of the end user are the same. And **The Product Marketing Handbook** is the only publication that details *all* the steps in getting your product recognized, accepted and widely sold.

In total, **The Product Marketing Handbook** is among the finest resources available to help you avoid mistakes and losses while showing you step-by-step how to increase sales and profits. It provides you with the competitive edge needed to launch and sustain your product in today's rough and tumble software marketplace.

The handbook is a precise road map to success that includes:

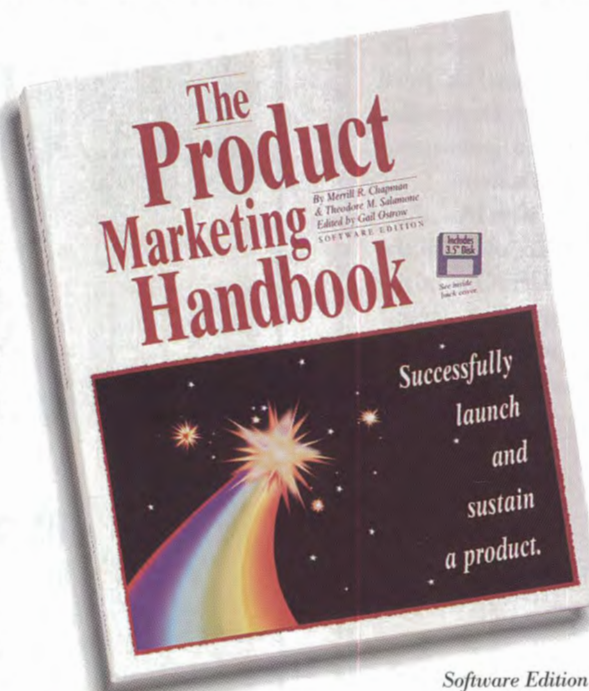
- **Positioning, Pricing and Naming**
- **Channel Distribution**
- **Collaterals**
- **Public Relations and Product Review Programs**
- **Advertising**
- **Sales Promotions**
- **Direct Marketing**
- **Bundling**
- **Electronic Marketing**
- **Trade Shows**

True focus stories describe how industry winners triumphed and the decisions that led the losers to disaster. Each chapter concludes with checklists of action items that guide you into evaluating your particular circumstance, establishing objectives and measuring effectiveness.

About the author...

Merrill R. Chapman has been in the software industry for 15 years and has seen firsthand the brilliant marketing techniques employed by industry giants and the catastrophic errors made by companies that are no longer in business. He presently consults with and trains marketing professionals in companies that include IBM, DataEase, SUN, Berlitz and WordPerfect.

Circle #64



Software Edition

\$49⁹⁵

"This is the book that drives your bottom line. Its extensive use of checklists is designed to help the novice or professional plan, manage, and execute programs as well as evaluate the results. It takes you through the nuts and bolts of successfully launching and maintaining products via different promotional programs."

Bill C. Donovan
Brand Manager, IBM Corporation



Software publishing is one of the most competitive and highly lucrative industries in today's world. And you can't afford to be a player without a full and certain knowledge of *all* the facts contained in **The Product Marketing Handbook**.

Free Bonus Offer!

Order today and receive a **FREE**, 3-month trial subscription to The Ambit Group's *Channel Compass*, a monthly guide to the latest trends in PC software channel marketing. A \$120 value!

To immediately receive your copy of **The Product Marketing Handbook** call

1-800-274-6204,

or fill out and mail the attached coupon to: **Aegis Resources, Inc., 35 Ridge Road, Stratford, CT 06497 U.S.A.**

For faster service, fax with credit information to **1-800-480-6151**.

For international orders call **1-203-380-8261**. International fax, **1-203-380-8263**.

☐ Please send me _____ copies of **The Product Marketing Handbook**.

☐ Each copy is \$49.95 U.S.* plus \$8.95 for shipping and handling (U.S. and Canada). Enclosed is a certified check or money order for _____. International shipping costs slightly higher.

☐ MasterCard ☐ Visa ID 001

Card #: _____ Exp. Date: _____

Name _____

Title _____

Company _____

Street Address _____

City _____

State _____ Zip _____

*Connecticut residents are required to add a 6% sales tax of \$3.00 per copy.

Aegis

SPECIAL REPORT

net connectivity at transmission rates surpassing those of ISDN.

These technologies are still a little pricey for the average household (about \$1,500 in hardware for ISDN and falling very fast). But within a few years, it is likely that millions of people will be able to receive the equivalent of an on-screen magazine, supplemented with audio and full-motion video, in a matter of seconds. That will change publishing forever.

A veteran radio personality in San Francisco, Scoop Nisker, closes each of his broadcasts with the same appeal: "Remember, if you don't like the news, go out and make some of your own." For San Francisco's striking journalists, Nisker's words became a sort of mantra for 11 days. Thanks to OS/2, the journalists not only made the news, they *were* the news. And they were the future. ♦

Marcelo Rodríguez is a political writer and associate editor for Pacific News Service in San Francisco. He can be reached on the Internet at marcelo@ccnet.com.

Newspapers on the 'net

Here's a list of some newspapers and magazines now available on-line:

Atlanta Journal-Constitution

<http://www.ping.com/ajc/ajchome.html>

Casper (Wyo.) Star-Tribune

<http://www.trib.com/>

Chicago Tribune

<http://none.coolware.com/tribune/tcohtml.html>

Detroit Free Press

<http://gopher.det-freepress.com:9002/>

St. Petersburg Press (Russia - weekly)

<http://www.spb.su/sppress/index.html>

The London Telegraph

<http://www.telegraph.co.uk/20>

Time-Warner's Pathfinder (Time magazine and other offerings)

<http://www.timeinc.com/pathfinder/Greet.html>

Plus, you can still read the entire 11-day run of the *San Francisco Free Press*

http://www.ccnet.com/SF_Free_Press/welcome.html.

The on-line *Daily* published by *Chronicle* and *Examiner* management is also available

<http://sfgate.com>.

Help Desk Software Comes of Age . . .

HODstar Supporter provides your support staff a platform to track network resources and customer/employee calls.

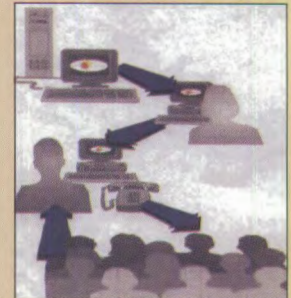
These two functions are indispensable when integrated into a single facility.

HODstar Supporter is this single facility.

Your administrators determine what server information goes into HODstar Supporter's profiles. Help desk staff then use those profiles to support your end-users.

Profile data can be stored anywhere on your DB2 network! Or use our database!

Profiles can be loaded individually, or automatically using a separate loader modular.



- Client/Server for wide-area-network tracking - no network too large or too small!
- Transparent data access using IBM's multiplatform DB2 engine means support from OS/2 and NTAS desktop PC's to UNIX and mainframes! Or use our database!
- Extremely fast 32-bit implementation, and nothing but data goes over your network!
- Instantly view full profile for all network resources relating to a customer call, from printers and drives to different network types!
- Permits network administrators to show support staff the right levels of information!
- Automatic call alarming!
- Unique, self-updating queues to group your calls!
- Tame your local area network for your support staff! Help them better help your network!
- On-line tutorial, documentation, and contextual help makes your staff productive immediately!

Call us for a catalog of HODstar products!

HODstar™

Support Solutions

Electronic Mail- [Internet: pms30@prodigy.com](mailto:pms30@prodigy.com)
Prodigy: PMSH30A
Telephone- Voice: (817) 379-0220
Fax: (817) 379-4020
HODstar Support Solutions
Sales and Services dept.
417 Hovenkamp
Keller, TX 76248-3422

Available through OS/2 EXPRESS

Circle #259

January 1995 OS/2 Professional 27

SPANS

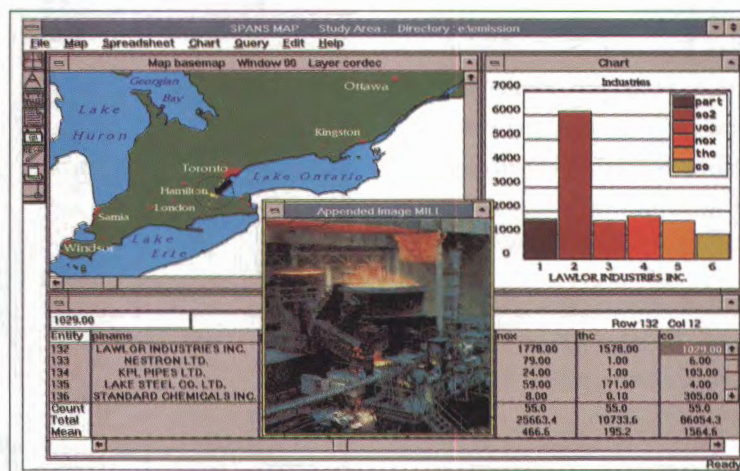


SPANS is a registered trademark of
TYDAC Technologies Inc.

Powerful spatial analysis at your fingertips

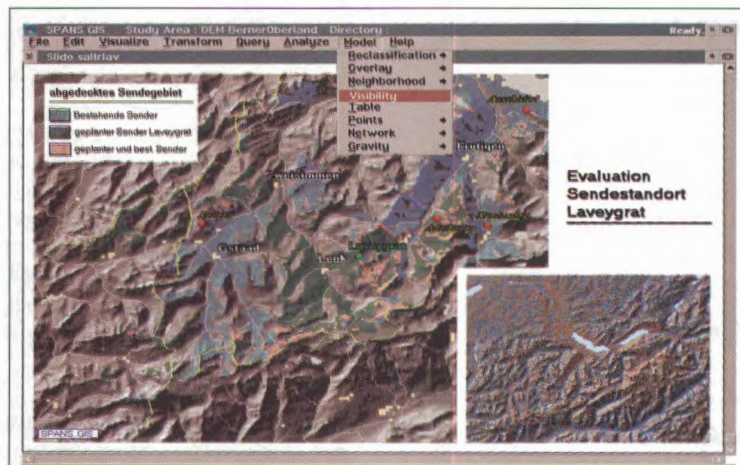
TYDAC Technologies, world leaders in the development of spatial analysis software solutions, offers you a complete set of resource management tools in its SPANS line of products and services. SPANS software products are true stand-alone systems which allow you to integrate, edit and manage your

data. SPANS allows you to analyze and view geographically-referenced data as part of your decision-making process. From desktop mapping and visualization, through to state-of-the-art analysis and modelling, SPANS puts powerful spatial analysis processing at your fingertips.



SPANS provides:

- intuitive, easy to use graphical user interface
- support of raster, vector, quadtree and point formats
- links to relational database management systems
- high quality, scalable output (WYSIWYG)



SPANS is used worldwide for:

- environmental analyses
- forestry inventory
- hydrological modelling
- geological exploration
- digital terrain analysis
- wildlife habitat management

Powerful PC and workstation solutions (for Windows, OS/2 and UNIX) brought to you by SPANS from as low as \$995. TYDAC and its SPANS business partners are committed to providing full applications development, systems integration, training and customer support services. *SPANS links directly with PCI's EASI/PACE software.*

Contact the TYDAC Technologies office nearest you TODAY, and put the power and flexibility of a SPANS spatial solution at your fingertips.

TYDAC Technologies Inc.
Suite 210, 2 Gurdwara Road
Nepean, Ontario
Canada K2E 1A2

Phone: 1-613-226-5525
Fax: 1-613-226-3819

TYDAC Technologies Ltd.
Chilworth Research Centre
2 Venture Road
Southampton, United Kingdom SO1 7NP

Phone: 44 703 760824
Fax: 44 703 760944

Circle #40

Available through OS/2 EXPRESS

Windows 95 Compatibility: Bane or Blessing?

BY MICHAEL S. KOGAN

It is now 1995, and even though OS/2 Warp is here and Windows 95 is not, most major software developers are working on Windows 95 versions of their products. Why? In anticipation (or fear) of the market opportunity that Microsoft is creating with Windows 95.

As a result, whether IBM provides the ability to run Windows 95-specific programs on OS/2 in the future has emerged as a critical issue for both users and software developers.

Microsoft has thrown down the gauntlet in its continuous beta-marketing of Windows 95, declaring loudly that OS/2 does not have the ability to run Windows 95 applications. That ploy comes as no surprise. But what shall we make of the reality behind the claim? Is it just sucker bait to ensure ISVs remain focused on Windows 95 development? Or will compatibility emerge as the key factor influencing OS/2's market share?

At the very least, IBM's direction on this key issue will have a dramatic impact on the future availability of native OS/2 applications, and important ramifications for purchasing decisions in both the business and consumer markets.

Damned Either Way

Windows 95 support in OS/2 (assuming that IBM could implement it) would be the kiss of death for OS/2 application development—and ultimately for OS/2 market share. Although OS/2 would be able to run the latest Windows software and it would make OS/2 users feel more comfortable with their investment, this capability would ensure that future software would be written to Win32c, the programming interface of Windows 95.

After all, ISVs want to code to the platform that will give them the greatest potential for sales, and if Windows 95 programs run on OS/2 there would be no business case for creating native OS/2

programs—OS/2 would be just another Windows 95 platform. This would also carry over into the long term plans of corporate programming shops that want to integrate their own custom software with the leading off-the-shelf products.

If IBM opts not to implement Windows 95 compatibility, though, there is still a business case and good reason for ISVs to write native OS/2 application software. With Warp's strong sales

and an OS/2 installed base approaching the ten million mark, there is money to be made in native OS/2 applications. IBM has also laid out a clear path for moving OS/2 software to the PowerPC without any Microsoft dependencies.

But without Windows 95 compatibility, what happens to OS/2 users who need to run the latest Windows software—or, more specifically, Microsoft software? Because that's what we're talking about here. While other leading ISVs may, like Corel, ultimately restart their OS/2 development efforts given ample reason to, it appears that Microsoft will never

provide OS/2 tools and applications.

This has the potential to leave OS/2 users that want to run Windows 95 software up a creek without a paddle. For OS/2 users that are standardizing on Microsoft applications, most notably those from the Microsoft Office suite, it comes down to OS/2 with Lotus SmartSuite versus Windows 95 with Microsoft Office. At the moment, in narrow productivity terms, that's not a very good choice.

Justice Served?

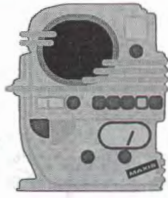
In this light, it becomes clear how crucial a role the Justice Department's inaction will play. Microsoft's lack of support for OS/2 applications, even when Bill Gates promised to create them when one or two million OS/2 copies were sold, could certainly be viewed as monopolistic and industry controlling.



SIMCITY[®]

CLASSIC The Original City Simulator

for OS/2[®]



Yes!

This is *the Real Thing*. A full native, 32 bit, multi-threaded implementation of the multi platform, multi award winning game almost everyone has gotten their hands on and loved to play.

In SimCity, you become the mayor of an evolving, growing city. Seven world famous cities are simulated, or design your own village or metropolis.

SimCity gives you the keys of the city. The rest is up to you. You'll need to take action against monsters, earthquakes, pollution, crime, traffic gridlock and much more. The sounds, the colors and the actions are irresistible.

Winner of over 40 major industry awards and gaining international acclaim has put SimCity in a class by itself. Accept no Substitutes!

Requirements: OS/2 2.1 or OS/2 Warp, IBM or compatible 386 or 486, 8 Mb RAM, 2 Mb HD, VGA or greater graphics, Color, OS/2 sound support.

Call 1-800 543-4999 or (415) 473-1800

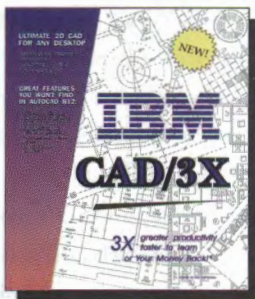
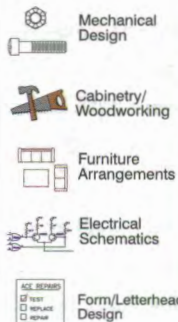
Email: simcity@dux.com



Available through OS/2 EXPRESS

Circle #269

Turn your ideas into reality 3 times faster.



So easy to use yet
more 2D features than any CAD under \$1000

- Full featured to quickly make any 2D drawing
- Lines, Arcs, Curves, Symbols, Export to WP, Analyze, Associative Dimensioning, 2D Booleans, and more
- Parametric parts, Programless macros
- Patented - Dynamic highlighting, Smart redraw reduces learning time AND slashes drawing time!
- Online graphical hyperHelp, Online Demos
- Outstanding DXF compatibility
- DOS version also available

System requirements: IBM compatible PC with math coprocessor, 8 MB free on hard disk, mouse. OS/2: 6 MB RAM minimum, OS/2 1.3 or higher. DOS: 1 MB RAM minimum (4 MB recommended), DOS 3.3 or higher.



IBM CAD
800-426-2231 ext. 67

Available through OS/2 EXPRESS

Circle #196

30 OS/2 Professional January 1995

KOGAN'S KORNER

If Microsoft had been forced to split off its applications development operations into a separate company, it would not be able to ignore the OS/2 market as a platform for Microsoft applications. The business case for OS/2 applications is nearly as strong as that for Apple, and certainly more substantial than that for Windows NT. Since many Windows applications are built using Microsoft tools that currently are not available on the OS/2 platform, adding these to OS/2 would rapidly increase the number of applications available for OS/2.

A Winning Strategy

IBM must give ISVs a reason to write native OS/2 applications. It also must continue to support technologies that make porting to OS/2 easier—technologies such as One Up's SMART tool; Borland's Object Windows Libraries environment; and perhaps even Microsoft Foundation Class interfaces, which could be built into future versions of IBM's CSet++ tool.

There are other factors that weigh against building in Windows 95 compatibility. It's not going to cause any current Windows users planning to migrate to Windows 95 to change their minds about platforms. It will cost IBM valuable development resources at a time when its plate is full supporting Warp and developing Warp LAN Client, Warp LAN Server, Warp SMP, OS/2 For PowerPC, and OpenDoc/Taligent. It will also cost users, since IBM would likely have to acquire—and pay for—Windows 95 licensing to provide the support. Finally, OS/2 would forever be stuck playing compatibility catch up—the game we have witnessed for the last three years.

To date, IBM's position has been, "We've investigated Windows 95 compatibility and will consider supporting it in a future OS/2 if there is significant demand for Windows 95 programs." For the time being, this is a safe strategy—Windows 95 is not yet out. And corporate IS managers will delay any application upgrades as long as possible.

Microsoft's latest OEM and ISV logo programs are obvious reactions to OS/2's Warp factor, which makes IBM's strategy also a smart one (although it does nothing to change the image of PSP's managers as indecisive). However, at some point soon IBM must make a choice or it will lose its newly acquired initiative.

It all comes down to a simple question: does IBM want to go head to head with Microsoft? After all, if you don't play to win, you won't. ♦



You don't need weird hair to form a powerful peer group

Announcing LANtastic® for OS/2®

Guilty of going to extremes to win peer-to-peer connectivity for your team? Then consider LANtastic for OS/2, a true 32-bit multitasking, multithreaded peer-to-peer network operating system utilizing OS/2's superior power and performance.

LANtastic for OS/2 coexists with Novell® NetWare Requester™ for OS/2 and IBM® LAN Server clients and easily

communicates with LAN Server, Windows NT™ and other SMB-based servers. It has centralized network management and flexible security options that are easy to use.

Still need more proof? Call 1-800-809-1246 for the Artisoft Premier™ or Artisoft Advantage™ Partner nearest you. Then judge for yourself.



ARTISOFT®

Circle #256

OS/2 AVAILABLE THROUGH
EXPRESS

© 1994 ARTISOFT INC. All rights reserved. Artisoft and LANtastic are registered trademarks, and Artisoft Advantage and Artisoft Premier are service marks of Artisoft, Inc. OS/2 and IBM are registered trademarks of International Business Machines Corporation. Novell is a registered trademark and NetWare Requester is a trademark of Novell, Inc. Windows NT is a registered trademark of Microsoft Corporation.

CPU Monitor Plus

CPU Monitor Plus is the unmatched standard for Performance, Analysis and Measurement on your OS/2 PC.

Easily configure CPU Monitor Plus' intuitive, real-time displays. Let the powerful analysis engine rip through raw system data and give you graphs or text, percentages, ratios, bytes or seconds.

And much, much more!

- Display real-time CPU utilization data for any process and thread.
- Display real-time RAM utilization data including in-use, allocated, private and shared for all OS/2, Windows and DOS programs.
- Detect and stop hidden, invisible and runaway programs.
- Monitor all disk, COM port and interrupt activity.
- Show virtual memory, swapfile and paging activity.
- Improve Performance! Start, stop and suspend programs. Monitor and set execution priorities.

BonAmi Software Corporation
60 Thoreau St. • Suite 219
Concord, MA 01742 USA
508.371.1997

CIRCLE IT!

For additional information about an advertised product or service, circle the number. When you circle a number, you not only gain access to valuable information, you demonstrate to the advertisers that their support for OS/2 Professional gains them an important visibility in the OS/2 market. To subscribe, check the subscription box, and fill out the qualifying information required to fulfill all subscription requests.

ADVERTISER	PAGE	NUMBER
ADPI	48	266
Apex Data	15	130
Artisoft	31	256
BT&T Consumer Technology	50	191
BonAmi Software	32	2
Carbon Based Software	61	277
Cirrus Technology	49	4
Clear & Simple	14	116
Clearlook	10	226
Computer Data Strategies	11	252
CorelDRAW	74	5
Custom Design Software	61	258
DeScribe	25	7
Development Technologies	67	234
Diacoustics	24	212
DUX Software	30	269
Gpf Systems	62	12
HODstar Support Services	27	259
Honeywell	57	267
IBM CAD/3x	30	196
Innovative Business Technology	63	276
Intec	12	192
J&J Computer Consulting	48	202
MHR	52	92
Multi-Net Communications	50	201
Networks Expo	71	183
Oberon Software	68	34
PCX	46	123
Parallel Storage Solutions	2	113
Percussion Software	60	262
Perez	63	261
Pinnacle Technology	66	88
Pixelink	4	228
Rhintek	24	271
S&S Public Relations	52	278
SoftTouch Systems	73	98
Soft & GUI	58	35
Suitable Alternatives	60	204
Synaptec	14	274
Sytron	64	73
TechBridge Technology	16	265
The Desktop Company	11	273
The Product Marketing Handbook	26	64
Tritus	6	65
TYDAC	28	40
Vendor Council	54	182
Wall Data	8	255



Official IBM Reseller



EXPRESS

THE QUICKEST WAY TO ORDER OS/2 APPLICATIONS, TOOLS, BOOKS, & ACCESSORIES.

OS/2 WARP Version 3

Order number 251, A or B *MSR: \$129.00*
OUR PRICE: \$75.00 (\$89.00 after 1/15/95)

OS/2 WARP LAN version*

Order number 261, A or B
OUR PRICE: \$115.00

OS/2 WARP with WIN-OS/2*

Order number 262, A or B
OUR PRICE: \$129.00

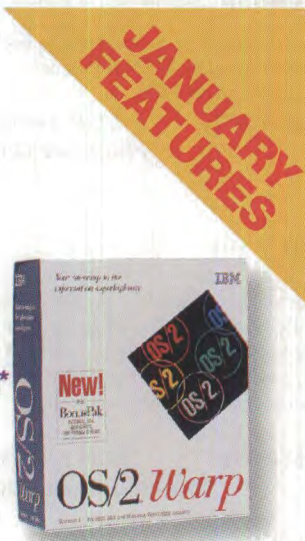
OS/2 WARP with WIN-OS/2, LAN version*

Order number 263, A or B
OUR PRICE: \$149.00

OS/2 WARP with WIN-OS/2 upgrade

Order number 278, A or B *MSR \$149.00*
OUR PRICE: \$92.00

* prices and availability subject to change without notice.
Specify "A" for CD-ROM, "B" for 3.5" diskettes.



2
RESERVE
2

Your copy of WARP TODAY and get manufacturers' rebates* worth more than \$300.00—FREE with your WARP delivery.

* Includes software by Bon Ami, Cirrus, Clear & Simple, Clearlook, Dux, HODStar, IBM-CAD, J & J, Multi-Net, PCX, Rightware and others.

2
OS/2
2

WinGrate

DK Micro

Tired of waiting for the Full Pack version of Warp to arrive? WinGrate migrates your WIN-OS/2 environment to a format compatible with Microsoft Windows and prepares your system for Warp installation. All you need to upgrade OS/2 2.1 (Borg) are copies of OS/2 Warp version 3, Microsoft Windows 3.1 or 3.11, and WinGrate.

Order number 309 *MSR: \$20.00*
EXPRESS PRICE: \$10.00 **WARP ADD-ON: \$5.00**

Relish

Sundial Systems, Inc.

Time management for the way you want to work. Drag-drop convenience. Desktop objects for common and customizable views. Everything hot-linked for maximum flexibility.

Order number 320 *MSR: \$189.00*
EXPRESS PRICE: \$69.95

January's Special Values!

Limited stock—then they're gone!

Clearance Items

	was	now
Error Manager 2.0: Order number 117	\$199.00	\$49.00
Dvorak's Guide to OS/2 Version 2.1 Order number 173	\$34.95	\$27.50

Closeout Items

	was	now
Tritus Order number 167	\$95.00	\$29.00
Back in a Flash Order number 290	\$49.00	\$20.00
Cursor Power Order number 153	\$35.00	\$10.00
Performance Plus for 2.1 Order number 115	\$24.95	\$15.00
CEnvi Order number 156	\$39.00	\$15.00
TE/2 1.30 Order number 107	\$79.95	\$15.00
Priority Master II Order number 144	\$49.00	\$4.00
MIDI Renderer Order number 155	\$69.95	\$35.00
REXX Diagnostic Order number 139	\$125.00	\$25.00
Footprint Module for OS/2 2.1 Order number 157	\$95.00	\$29.95
Warp Speed Light Pens Order number 210	\$179.00	\$50.00
Pegasus Resource Monitor Order number 218	\$99.00	\$75.00

◆ OS/2

OS/2 WARP Version 3

IBM

Take off at warp speed with IBM's latest upgrade to OS/2, WARP. Everything runs faster and in less memory with WARP's optimized code. Improved device support and one-button install will let you hit the ground running. New drag and drop functions and window management routines require less work on your part, further enhancing your productivity. Backward compatibility with previous versions gives you everything you loved about 2.1 and adds those long-desired features you've requested, including a Bonus Pak with enough true 32 bit applications to run a small office.

Order number 251, A or B *MSR: \$129.00*

OUR PRICE: \$75.00
(\$89.00 after 1/15/95)

OS/2 WARP LAN version*

Order number 261, A or B

OUR PRICE: \$115.00

OS/2 WARP with WIN-OS/2*

Order number 262, A or B

OUR PRICE: \$129.00

OS/2 WARP with WIN-OS/2, LAN version*

Order number 263, A or B

OUR PRICE: \$149.00

OS/2 WARP with WIN-OS/2 upgrade

Order number 278, A or B

MSR: \$149.00

OUR PRICE: \$92.00

WinGrate

DK Micro

Tired of waiting for the Full Pack version of Warp to arrive? WinGrate migrates your WIN-OS/2 environment to a format compatible with Microsoft Windows and prepares your system for Warp installation. All you need to upgrade OS/2 2.1 (Borg) are copies of OS/2 Warp version 3, Microsoft Windows 3.1 or 3.11, and WinGrate.

Order Number 309 *MSR: \$20.00*

OUR PRICE: \$10.00
WARP ADD-ON \$5.00

*prices and availability subject to change without notice. Specify "A" for CD-ROM, "B" for 3.5" diskettes.

◆ BACKUP

Back Again/2-Pro

Computer Data Strategies

Back Again/2-Pro is a graphical 32-bit backup program for OS/2. It supports backup to LANs, SCSI tape, and other removable media. Includes compression, backup scheduling, and command line utilities for complete disaster recovery.

Order number 236 *MSR: \$149.00*

OUR PRICE: \$95.00

Back in a Flash!

CCT

Schedules incremental or comprehensive backup to diskette, Bernoulli, LAN drives or Optical. Support unavailable.

Order number 290 *MSR: \$49.00*

CLOSEOUT PRICE: \$20.00

BakupWiz

PCX

BakupWiz is the OS/2 solution for backup to SCSI tape, Bernoulli, syquest, magneto optical, and tape auto-changers. Full support for EAs, long names, and networking is included. Your OS/2 system partition can be completely restored.

Order number 171 *MSR: \$149.00*

OUR PRICE: \$95.00

Cheyenne ARCsolo for OS/2

Cheyenne Software, Inc.

ARCsolo is the first substantial native OS/2 backup solution. Designed with a WPS-like front end, it offers drag-and-drop functionality, multithreading, and an object oriented approach.

Order number 240 *MSR: \$295.00*

OUR PRICE: \$225.00

NovaBack for OS/2

NovaStor

NovaBack for OS/2 is a complete backup solution for all OS/2 workstations or networks. Support for OS/2 1.x and 2.x is shipped together. NovaBack supports more than 250 SCSI and QIC-80 tape drives.

Order number 138 *MSR: \$79.00*

OUR PRICE: \$49.99

Nutshell

Quantum Micro Systems

Nutshell for OS/2 is a quick and easy backup, restore, and re-install solution for all LAN, tapedrive, and laptop environments, including Novell 3.12, and LapLink.

Order number 200 *MSR: \$85.00*

OUR PRICE: \$62.50

◆ UTILITIES

ATS for OS/2

MHR

Advanced Task Scheduler for OS/2 is a production job scheduling utility that eliminates the need for human intervention during routine batch processing. ATS allows you to take complete control over how and when each of your scheduled programs will run.

Order number 181 *MSR: \$349.00*

OUR PRICE: \$315.00

"Bloodhound"

IBM

"Bloodhound" (aka SearchManager/2) is probably the most powerful text finding tool you can buy for a PC. Once you've indexed your files, this native 32 bit OS/2 utility and its Thesaurus will find and retrieve with lightning speed files in five languages containing the words you're looking for and linguistic variations and synonyms.

Order number 215 *MSR: \$300.00*

OUR PRICE: \$225.00

LAN version add-on

Runs on LAN Server, Novell or IBM TCP/IP.

Order number 285

OUR PRICE: \$225.00

Chron

Hilbert

Chron is an OS/2 PM application that will schedule other OS/2, DOS, or Windows applications to run at a specified time and a specified frequency.

Order number 184 *MSR: \$99.00*

OUR PRICE: \$89.00

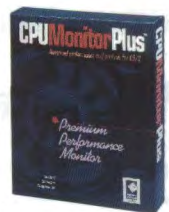
CPU Monitor Plus

Bon Ami SoftWare Corp.

A premium performance and analysis package for OS/2. CPU Monitor Plus permits real time monitoring and control of CPU, RAM, disks and ports, and program and thread control for all OS/2, DOS, and Windows programs.

Order number 108 *MSR: \$129.95*

OUR PRICE: \$79.95



CursorPower

North Shore Systems

Redesign and resize arrow, wait, I-beam, and other cursors. Create new cursors or turn graphics, text, signatures, and company logos into cursors. Toolkit includes OS/2 and Windows versions on one disk.

Order number 153 *MSR: \$49.95*

CLOSEOUT PRICE: \$10.00

DeScribe - Lights

DeScribe Inc.

A unique, unobtrusive CPU activity monitoring tool. Takes up only one pixel of screen space at the bottom of the OS/2 screen. Acts as a thermometer of CPU activity identifying CPU overload, hung systems and other multitasking activity.

Order number 217 *MSR: \$29.00*
OUR PRICE: \$25.00

DeskMan/2 v 1.5

Development Technologies
The essential Workplace Shell utilities. Dramatically improves the ability of corporations and users to get the most out of OS/2. Manage, secure, backup, and migrate the WPS; get organized with virtual desktops; more.



Order number 187 *MSR: \$79.95*
OUR PRICE: \$49.95

GammaTech File Secure for OS/2

SofTouch Systems, Inc.

Encrypt your most precious corporate asset—your company data! Using the latest data encryption techniques available*, GammaTech File Secure protects sensitive data from unauthorized viewing. Files are encrypted using unique file keys that cannot be replicated. Data can be obliterated using techniques that conform to U.S. Department of Defense 5220.22-M specifications. (*This product's use of Data Encryption Standard algorithms means its sale, resale, or use outside the U.S. and Canada is expressly prohibited).

Order number 111 *MSR: \$39.95*
OUR PRICE: \$34.95

GammaTech Power Pack for OS/2

SofTouch Systems, Inc.

Power Pack is a PM-based application which launches applications and executes lengthy keystroke operations with a couple of function keys. It also includes a sophisticated editor to create, delete, or modify OS/2 INI files and the Extended Attributes associated with your data files. Supports both ASCII and hex. Enhanced screen saver with "hot" corners included with this offer.

Order number 110 *MSR: \$69.95*
OUR PRICE: \$59.95

GammaTech Utilities for OS/2 Version 3.0

SofTouch Systems

GammaTech Utilities for OS/2 makes it possible to perform HPFS volume recovery, FAT and HPFS optimization, and essential maintenance operations easily

NEW VERSION!

and without extensive hardware and software knowledge.

Order number 109 *MSR: \$149.00*
INTRODUCTORY PRICE: \$99.00

J&J Utilities for OS/2

J&J Computer Consulting

J&J Utilities v 1.5 is a collection of over 20 utilities including file locate, HPFS and FAT file defragmenters, process control automatic job scheduling, and more.

Order number 112 *MSR: \$49.95*
INTRODUCTORY PRICE: \$99.95

IBM AntiVirus/2

ISSC

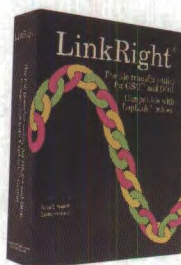
IBM AntiVirus/2 uses new "neural network technology" developed by IBM Research scientists to detect previously unknown boot viruses and "learn" how to identify infected and uninfected sections of software, thus significantly reducing false alarms.

Order number 233 *MSR: \$89.95*
OUR PRICE: \$85.00

LinkRight 1.1

Rightware Inc.

This parallel/serial port file transfer utility package for OS/2 includes three versions: Presentation Manager, OS/2 command line, and DOS. Copy files to/from OS/2 and to/from DOS systems retaining EAs and long file names. Compatible with LapLink cables.



Order number 113 *MSR (with cables): \$189.00*
OUR PRICE (W/CABLES): \$99.00

Order number 114 *MSR (without cables): \$110.00*
OUR PRICE (W/O CABLES): \$65.00

MESA 2

Athena Design

At last, an important new native OS/2 spreadsheet which takes advantage of SOM, OpenDoc, multithreading and Object Oriented User Interface. Also includes an object library so that you can integrate MESA objects into your own line-of-business applications.

Order number 310 *MSR: \$199.00*
SPECIAL PRICE THROUGH 1/15/95: \$98.00

NEW!

◆ BUNDLE BARGAINS

Business Bundle

Order number 305

**American Heritage Dictionary
Super Font Library
Time & Place**

Regular Express price: \$156.95
BUNDLE PRICE: \$139.95

2-Sense Bundle

Order number 306

**WipeOut
System Sounds for OS/2
OS/2 Pro CD-ROM**

Regular Express price: \$123.00
BUNDLE PRICE: \$109.95

Power Bundle

Order number 303

**Performance Plus for 2.1
Footprints
OS/2 Pro CD-ROM**

Regular Express price: \$72.00
BUNDLE PRICE: \$59.95

Fun Bundle

Order number 304

**Trickle Down
Sim City
OS/2 Pro CD-ROM**

Regular Express price: \$76.50
BUNDLE PRICE: \$69.95

OS2Tree Lite

Levine

OS2TREE Lite is what XTREE Gold is to DOS, what Norton Commander missed, and more. Dynamic graphic file management for OS/2 supporting both FAT and HPFS.

Order number 141 *MSR: \$125.00*
OUR PRICE: \$39.00

OS2Tree Pro

Levine

All the features of OS2TREE Lite plus LAN drive, mainframe file upload/download support, and one year of upgrades and product support.

Order number 142 *MSR: \$250.00*
CLOSEOUT PRICE: \$89.00

Performance Plus for 2.1

Clear & Simple, Inc.

Optimize your system with the help of this collection of 25 OS/2 REXX Workplace Shell utilities plus a 100-page manual on finetuning OS/2 2.1. Also includes a bonus pack of 3,000+ OS/2 format icons.

Order number 115 *MSR: \$39.95*
CLOSEOUT PRICE: \$15.00

Performance Plus for Warp

Clear & Simple

Performance Plus is a system tuning and utility kit for OS/2 Warp. Features a new simple GUI, DOS/Windows application optimizer, bitmap viewer, swap monitor with audible warning, and more. Plus bonus OS/2 bitmaps.

Order number 311 *MSR: \$39.95*
OUR PRICE: \$27.00

NEW VERSION!

Pegasus Resource Monitor

OnDemand Software & Services

The first affordable, professional performance monitor of OS/2 version 2.x. Features: statistical data logging, pop up, exceptions, and a real time graphical display.

Order number 168 *MSR: \$149.00*
CLEARANCE PRICE: \$75.00

Priority Master II

ScheduPerformance, Inc.

Designed for OS/2 developers, Priority Master II adds to Priority Master I additional auto priority scanning logic. Take control of your development environment and how your programs co-exist.

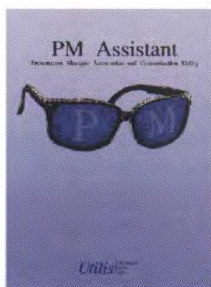
Order number 144 *MSR: \$129.00*
CLOSEOUT PRICE: \$4.00

PrntScrn

MITNOR Software

4 Integrated Utilities—1 Low Price! Copy any portion of any desktop image; import, export, view, print clipboard images and text; nine screen saver displays; date/time display. LAN installable; includes OS/2 2.x and 1.3 versions.

Order number 154 *MSR: \$115.00*
OUR PRICE: \$105.00



PM Assistant

Utilis, Inc.

A comprehensive and integrated suite of utilities including: hot-key access to applications, automatic application placement on screen, keyboard macros, task scheduling, screen saver, and password protection.

Order number 183 *MSR price: \$129.00*
OUR PRICE: \$99.00

QuikSwitch for OS/2

BitWare Consulting

Increase productivity by starting and switching between frequently used programs quickly by pressing key combinations (hot-keys). Works for DOS, Windows, and OS/2 applications. Speech-enabled, works with IBM's ICSS speech recognition software and most sound cards.

Order number 180 *MSR: \$39.95*
OUR PRICE: \$29.95

System Sounds for OS/2

BOCASoft

System Sounds gives your computer a voice by associating audio with system events and keystrokes. Includes over one megabyte of professionally recorded sound effects in Microsoft audio format. Requires an audio card supported by MMPM/2 (included with OS/2 2.1).

Order number 252 *MSR: \$59.00*
OUR PRICE: \$46.00

Secure Workplace for OS/2

Syntegration

The Secure Workplace for OS/2 is a collection of workplace objects and program utilities designed to provide workplace shell protection, setup, and support.

Order number 165 *MSR: \$59.95*
OUR PRICE: \$49.95

10-Station Enterprise Edition:

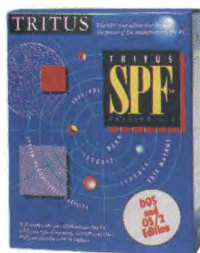
Order number 166 *MSR: \$549.95*
OUR PRICE: \$459.95

SuperType Master Library

IQ Engineering

SuperType Master Library contains 96 scalable, professionally-designed, display, text and headline fonts to add style and creativity to all your applications in OS/2.

Order number 205 *MSR: \$29.95*
OUR PRICE: \$24.95



Tritus SPF

Tritus

Tritus SPF is a 32 bit ISPF/PDF text editor for OS/2. Includes mappable keyboard, unlimited UNDO/ REDO, REXX macros, EBC-DIC support, Micro Focus

workbench integration, modifiable panels, cut/paste, text search, and DOS support. Edits files up to 256mb.

Order number 167 *MSR: \$195.00*
CLOSEOUT PRICE: \$29.00

Linkwiz (aka UniBeam)

PCX

Linkwiz is an OS/2 and DOS/Windows File Transfer Utility with an up to 2 mbps transfer rate over parallel cable. It's extremely easy to install and use. Native OS/2 code supports Presentation Manager, extended attributes, long file names and 32 bit I/O. Includes both a parallel and serial cable.

Order number 239 *MSR: \$189.95*
OUR PRICE: \$179.95

WipeOut

BOCASoft, Inc.

Wipeout is a 32 bit screen saver for OS/2 featuring animated displays and video screen savers, integrated with multimedia audio, password protection, screen capture, and priority manager

Order number 245 *MSR: \$59.00*
OUR PRICE: \$42.00

XFolder

Rosenberry Consulting, Ltd.

XFolder arranges and aligns desktop and folder icons. Select row, column, or perimeter layouts. Position all icons or selected icons. Multiple levels of "Undo". Save and restore favorite layouts. Customize icon spacing.

Order number 292 *MSR \$49.95*
OUR PRICE: \$29.95

ZipStream for OS/2 2.1

Carbon Based Software

ZipStream is an OS/2 Installable File System (IFS) that mirrors access to existing OS/2 File Systems, and simultaneously provides automatic transparent file compression and decompression services.

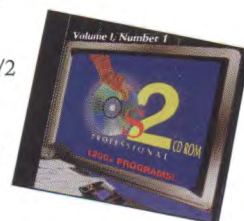
Order number 295 *MSR: \$79.95*
OUR PRICE: \$68.00

CD-ROM

OS/2 Professional CD-ROM

More than 1,200 OS/2 shareware, freeware, demoware programs, tools, and scores of OS/2 resources.

Order number 163
OUR PRICE: \$25.00



◆ COMMUNICATIONS

Communications Manager/2 v 1.1 IBM

Comprehensive communications processor includes improved 3270 and 5250 terminal emulation, more APPC functions plus features such as Data Compression and Distributed Feature Workstation.

Order number 280 *MSR: \$495.00*
OUR PRICE: \$310.00

RUMBA for the Mainframe. OS/2 version 3

Wall Data Inc.
Easy to use OS/2 to Mainframe connectivity with drag and drop file transfer and paste linking of host and PC applications. Interface support for MS SNA Server, APPC and CPI-C 2.0, Novell Network for SAA and TCP/IP.

Order number 286 *MSR: \$400.00*
OUR PRICE: \$365.00

FaxForward

Computer Systems Integration, Inc.
FaxForward is an Interactive Voice Response/Fax communication system designed to provide a software development platform for creating integrated voice, fax, database, and host supported applications.

Order number 206 *MSR: \$3,850.00*
OUR PRICE: CALL FOR PRICING

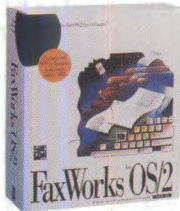
FaxWorks for OS/2

SofNet, Inc.
Faxing from any OS/2, Windows, or DOS application via a Class 1, Class 2, or CAS fax modem. The software also includes annotation tools to allow electronic markups, fax broadcasting, and multiple channel options.

Order number 102 *MSR: \$149.00*
OUR PRICE: \$99.00

10-user LAN version

Order number 103 *MSR: \$699.00*
OUR PRICE: \$495.00



FaxWorks Pro

SofNet, Inc.
Award-winning FaxWorks Pro for Windows features advanced viewing clarity, extensive fax management tools, fax annotation, a cover sheet creator, modem diagnostics, letterhead merge, and more importantly, it's easy to use.

Order number 104 *MSR: \$129.00*
OUR PRICE: \$65.00

HODstar™ Pager (single license)

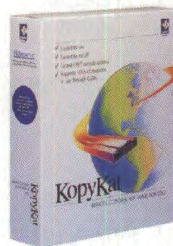
HODstar™ Support Solutions
Permits users to quickly and easily send messages to today's standard pagers. Also creates standalone programs to add pager functionality to any OS/2 batch file, REXX program, and commercial application. Supports all AT-compatible modems. Also available in site-wide and 'unlimited use' license.

Order number 255 *MSR: \$85.00*
OUR PRICE: \$80.00

HyperACCESS/5 V3.1

Hilgrave
Award-winning async comm program includes virus protection, host mode, on-the-fly un-zipping, 12 fast file transfer protocols, 17 terminal emulations. *PC Magazine* Editor's Choice.

Order number 161 *MSR: \$199.00*
OUR PRICE: \$129.00



KopyKat v1.0

Hilgrave
Anything you can do on an OS/2 PC, you can now do remotely through a modem or over a LAN. Displays the entire remote desktop in a window on your desktop.

Order number 162 *MSR: \$199.00*
OUR PRICE: \$129.00

PMCOMM 2.30

Multi-Net Communications
Pmcomm is a full-functioned, 32-bit, GUI, PM communications program. It supports complete key re-mapping, REXX scripting, host mode, pop-up menus, various terminal emulations, and file transfer protocols.

Order number 105 *MSR: \$99.95*
OUR PRICE: \$89.95

NEW VERSION!

TalkThru for OS/2

Software Corporation of America
The premier communications product for OS/2, providing terminal emulation including DEC VT340, file transfer (IND\$file X, Y, and ZMODEM etc.), scripting and support for IBM's EHLLAPI for asynchronous communications.

Order number 218 *MSR: \$350.00*
CLEARANCE PRICE: \$150.00

TE/2 1.30

Oberon Software
Full-featured OS/2 tele-communications and terminal emulation package; supports ANSI, VT100, IBM3101, and TTY emulations, and most common file transfer protocols.

Order number 107 *MSR: \$99.95*
CLOSEOUT PRICE: \$15.00

◆ PRODUCTIVITY

CA SuperProject

Computer Associates
CA-SuperProject is a complete set of project management and presentation tools that are easy to use and learn.

Order number 208 *MSR: \$649.00*
OUR PRICE: \$489.00

Clearlook

Clearlook
Developed exclusively for OS/2, Clearlook's cellular word processor gives users significant document processing capabilities. Invoke the flexible format control via an unlimited number of text areas and cells.

Order number 296 *MSR: \$199.00*
OUR PRICE: \$172.00

Deluxe American Heritage Dictionary

DUX Software
The 200,000-word Deluxe Edition is the first completely new dictionary for the 90's. Containing nearly twice as many words as the Standard Edition, it is one of the largest and most authoritative software dictionaries you can buy.

Order number 302 *MSR: \$59.00*
OUR PRICE: \$44.95

DeScribe 5.0 Subscription Edition

DeScribe, Inc.
Includes complete software and documentation, plus free upgrades and support through Dec. 31, 1995.

Order number 198 *MSR: \$299.00*
OUR PRICE: \$289.00



Footprint Module for OS/2 2.1

Footprint Software Inc.

The well known suite for word processing, spreadsheets, charts, database and a report writer now comes in a module for additional legacy stations.

Order number 157 *MSR: \$149.00*

CLOSEOUT PRICE: \$29.95



Lotus SmartSuite

Lotus

Take your native OS/2 applications to a higher level with Lotus SmartSuite. One integrated package provides word processing, spreadsheet, business graphics, and e-mail through Lotus's premiere products:

AmiPro, Lotus 1-2-3, Freelance, and cc:mail.

Order number 260 *MSR: \$795.00*

OUR PRICE: \$445.95

Lotus SmartSuite Upgrade

Order number 260B *MSR: \$395.00*

OUR PRICE: \$258.00

Person-to-Person for OS/2

IBM

It's the ultimate in PC interactivity! Person-to-Person permits up to five users to interact with each other—in real time—while viewing the same screen contents. Share, annotate, and print to common window contents while discussing the work over the phone.

Order number 277 *MSR: \$280.00*

OUR PRICE: \$210.00

Power Translator Professional for OS/2

Globalink, Inc.

This powerful application provides idiomatically accurate full-sentence foreign language translations under OS/2. Get the most accurate translations available to computer users today, with subject-, industry-, or profession-specific dictionaries. Versions are available translating to and from Spanish, French, or German.

Order number 116A—German

Order number 116B—French

Order number 116C—Spanish

MSR: \$199.00

OUR PRICE: \$124.00

PLUS \$25 MANUFACTURER'S REBATE

Relish

Sundial Systems Corp.

Time management for the way you want to work. Drag-drop convenience. Desktop objects for com-

NEW!

mon and customizable views. Everything hot-linked for maximum flexibility.

Order number 320 *MSR \$189.00*

OUR PRICE \$69.95

SkyScraper™, Desktop Manager for OS/2

Binar Graphics, Inc.

Realize the full power of OS/2 with SkyScraper. This application gives you practically unlimited screen real estate. Virtual desktops at a single click; all your applications run maximized on their own desktops! Launchpad and many other features.

Order number 299 *MSR \$99.95*

OUR PRICE \$69.95

TaxDollars '94

BT&T Consumer Technology

Calculate your 1994 income tax return and prepare for official tax forms. Includes 1040, Schedules A, B, D, E, C, 8829, SE, 2441, EIC, R and "What If" calculations. Links with "Final Forms," available in January.

Order number 293A *MSR \$39.95*

OUR PRICE \$15.00

Free with any OS/2 Express purchase through 1/30/95 (additional \$4.00 s&h).

Tax Dollars '94 Final Version

BT&T Consumer Technology

This includes the final versions of all the IRS forms needed to file complete 1994 tax returns. Companion system to Tax Dollars '94 planning version. Available in January.

Order number 293B

OUR PRICE \$7.95

Time & Place 2

IBM

This LAN-based calendar displays daily, weekly or monthly calendars. It also features windows in which meetings can be scheduled, room or equipment reservations made, free time searched, priorities assigned, and due dates set. A memo function also allows you to relay event-specific messages between worksessions.

Order number 282 *MSR: \$120.00*

OUR PRICE: \$85.00

MULTIMEDIA

MIDI Renderer

Diacoustics

Good-bye, FM synthesis! MIDI Renderer, a user-modifiable software synthesizer, produces CD-quality digital .wav files from MIDI music files. Uses existing audio card. OS/2, Windows, and DOS on CD-ROM.

Order number 155 *MSR: \$129.95*

CLOSEOUT PRICE: \$35.00

IBM CAD/3X: SAME PACKAGE, GREAT NEW ADD-ONS!

IBM CAD/3X

IBM

IBM CAD/3X is an easy to use CAD package. Yet it gives you more professional 2D features than any CAD under \$1,000. Recommended for plans, sketches, layouts, and more.

Order number 172 *MSR: \$495.00*

OUR PRICE: \$95.00

Richard Arder Explains

IBM CAD/3X

In this video tape, the well-known British CAD expert guides you through IBM CAD's powerful features, and compares it with other CAD programs.

Order number 319 *MSR: \$29.00*

OUR PRICE: \$21.00

IBM CAD Draws Cape Cod

SKP Solutions

75-page booklet takes you, step-by-step, through the process of drawing the floor plan of a mid-size home enabling you to understand the process and use the tools and techniques available with IBM CAD/3X.

Order number 318 *MSR: \$15.00*

OUR PRICE: \$12.00

Symbol Files

IBM CAD/3X

Architecture includes doors and windows, appliances, lumber, and kitchen and bathroom features.

Order number 311 *MSR: \$29.00*

OUR PRICE: \$22.00

Electrical/Electronic includes outlets, switches, fuses, resistors, capacitors, and reostats.

Order number 312 *MSR: \$29.00*

OUR PRICE: \$22.00

Piping/Welding includes elbows, trees, valves.

Order number 313 *MSR: \$29.00*

OUR PRICE: \$22.00

HVAC includes ventilation, heating and air conditioning ductwork from 12" to 48".

Order number 314 *MSR: \$29.00*

OUR PRICE: \$22.00

Mechanical includes screws, nuts and bolts and other fasteners.

Order number 315 *MSR: \$29.00*

OUR PRICE: \$22.00

Landscape includes trees and bushes, flowering plants and spas.

Order number 316 *MSR: \$29.00*

OUR PRICE: \$22.00

SYMBOLS BUNDLE Save on all six files!!!

Order number 317 *MSR: \$99.00*

OUR PRICE: \$75.00

◆ GRAPHICS

See the great new products for IBM CAD/3X in the box at Left!

CorelDRAW! 2.5 for OS/2 2.0

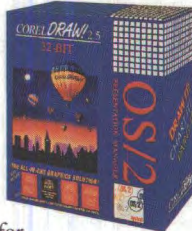
Corel Corporation
One 32 bit illustration package does it all: CorelDRAW!, CorelCHART, and CorelPHOTO-PAINT in one box, all optimized for OS/2. Plus a bonus CD-ROM with more than 12,000 clip art images and 250 fonts.

Order number 100 *MSR: \$199*
OUR PRICE: \$149.00

Graphic OS/2

Scientific Endeavors Corporation
GraphiC is a library of "C" routines for creating every sort of technical plot. High resolution vector format for publication quality.

Order number 204 *MSR price: \$495.00*
OUR PRICE: \$395.00



◆ DEVELOPMENT TOOLS

BD/CX ("Baby Driver")

Autumn Hill Software
BD/CX is the third generation of Baby Driver, Autumn Hill's printer toolkit. BD/CX provides printer support for your application, allowing you to print text and graphics on more than 900 printers.

Order number 178 *MSR: \$499.00*
OUR PRICE: \$399.00

CSet++ "Bundle" Promotion

CD-ROM version only.
Includes CSet++, Experience CSet++, and OS/2 for Windows

Order number 175A *MSR: \$249.00*
OUR PRICE: \$229.00

CD-ROM w/ Documentation

Order number 175B *MSR: \$279.00*
OUR PRICE: \$249.00

Diskette & Documentation Version

Order number 175C *MSR: \$309.00*
OUR PRICE: \$279.00



C/C++ 10.0, CD-ROM Edition (CD-ROM with on-line documentation)

Watcom
Professional C and C++ development environment for 16 and 32 bit DOS, Windows, OS/2, Windows NT, and Novell NLMS. Includes a comprehensive toolset with an IDE, debugger, C++ class browser, MFC support, and more.

Order number 212 *MSR: \$199.00*
OUR PRICE: \$189.00

CA Realizer

Computer Associates
CA-Realizer is the ultimate BASIC construction set for Windows and OS/2. The same CA-Realizer BASIC code that creates a Windows application ports instantly to OS/2.

Order number 207 *MSR: \$99.00*
OUR PRICE: \$79.00

CEnvi for OS/2

Nombas
A scripting tool to enhance or replace batch/REXX programming. Automate any session. Exploit 150 internal functions and the OS/2 API. Includes hundreds of samples and utilities.

Order number 156 *MSR: \$45.00*
CLOSEOUT PRICE: \$15.00

Error Manager 2.0

Soft & GUI Corporation
Error Manager is an OS/2 2.x development tool kit that provides unique testing and debugging facilities. It eliminates the need to check API Return codes, and no symbol information is required.

Order number 117 *MSR: \$225.00*
CLOSEOUT PRICE: \$49.00

GammaTech REXX SuperSet/2 for OS/2

SofTouch Systems, Inc.
SuperSet/2 contains over 308 functions in 7 DLLs; extensions include support for EHLLAPI, LAN Server, NetBios, TCP/IP, and miscellaneous host utilities. It simplifies your life by eliminating the need to maintain poorly documented DLLs from disparate sources. 650-page reference manual included.

Order number 174 *MSR: \$79.95*
OUR PRICE: \$69.95

GpfRexx

Gpf Systems, Inc.
A WYSIWYG OS/2 PM visual programming tool that uses REXX. Point and click to create basic or advanced applications using OS/2's capabilities. No royalties will be owed; configurable run-time capability.

Order number 118 *MSR: \$247.50*
OUR PRICE: \$125.00



Hyperwise

IBM
Hyperwise lets you create complete multi-media presentations with just the click of a mouse to link text, graphics, audio and video, create lists, tables, and other text elements without typing Information Presentation Facility (IPF) script tags. It's all done for you!

Order number 284 *MSR: \$295.00*
OUR PRICE: \$215.00

IPF Editor

Perez Computing Services
IPF Editor, a 32 bit PM program, makes it easy to create on-line documents and context sensitive help for OS/2 applications without learning IPF.

Order number 264 *MSR: \$150.00*
OUR PRICE: \$139.00

IPF Builder

Custom Design Software
IPF Builder is an essential tool for all OS/2 programmers. This specialized editor will save you time, money, and frustration when creating the source code for your INF and on-line HLP files.

Order number 265 *MSR: \$99.00*
OUR PRICE: \$85.00

KASE: VIP for OS/2

KASE Systems
KASE: VIP for OS/2 is the industry-leading visual design and code-generation tool for developing OS/2 applications in C. Each purchase includes discount coupon for new products.

Order number 257 *MSR: \$1,995.00*
OUR PRICE: \$495.00



MENUET/CX

Autumn Hill Software
MENUET/CSX is a C++ application framework for OS/2, WINDOWS and DOS. MENUET/CX was designed and developed under OS/2.

Order number 179 *MSR: \$599.00*
OUR PRICE: \$499.00

Notrix

Percussion Software
Notrix uses REXX to build Lotus Notes event-driven, server add-in applications. Manipulate

Notes data WITH NO Notes API or C programming.

Application Developer's Kit:

Order number 270 *MSR: \$199.00*
OUR PRICE: \$185.00

Notrix Server Kit:

Order number 269 *MSR: \$1,495.00*
OUR PRICE: \$1,450.00

Object Factory-IDL, Version 2.0

Synaptec, Inc.

The first OS/2 SOM tool continues to expand SOM development with the introduction of version 2.0. This feature-packed upgrade forges new ground in state-of-the-art OOUI interfaces, allowing the fastest possible SOM development.

Order number 300 *MSR: \$250.00*
OUR PRICE: \$237.50

OS/2 UCSD Pascal Development System

Cabot Software

The UCSD Pascal 32 bit professional development system is for Turbo Pascal users who want TP compatibility, a full 32 bit Pascal compiler, and links into OS/2's API technology. Key benefits include: UCSD Pascal links into the OS/2 API technology; Turbo Pascal compatibility; production of portable programming code; and value for money product, with a full range of programmers toolboxes.

Order number 267 *MSR: \$299.00*
OUR PRICE: \$275.00

Objectpm

Raleigh Systems, Inc.

The first class library geared specifically for OS/2 and the Presentation Manager, Objectpm provides more than 200 classes of objects encapsulating windows, controls, graphics tools, forms, threads, and much more. Supports Borland C++ for OS/2 and IBM CSet++.

C Set++ Version with Source

Order number 119A *MSR: \$399.00*
OUR PRICE: \$349.00

Borland Version with Source

Order number 119B *MSR: \$399.00*
OUR PRICE: \$349.00

C Set++ Version without Source

Order number 119C *MSR: \$235.00*
OUR PRICE: \$199.00

Borland Version without Source

Order number 119D *MSR: \$235.00*
OUR PRICE: \$199.00

REXX Diagnostic Commander

Suitable Alternatives

REXX Diagnostic Commander is a source level, interactive REXX debugging tool. Set breakpoints, single-step instructions, Jump or Run to any instruction. Windows allow variables, monitoring, and alteration.

Order number 139 *MSR: \$150.00*
CLOSEOUT PRICE: \$25.00

RexxTools for OS/2

Innovative Business Technologies, Inc.

Toolkit of two REXX development tools. REXXPack compresses a REXX command file. REXXComp creates an OS/2 exe from a REXX command file providing secure code.

Order number 298 *MSR \$149.00*
OUR PRICE \$139.95

Rexx VIM: The VIM Toolkit for REXX

Innovative Business Technologies, Inc.

Allows REXX to access cc:Mail and Lotus Notes for message creation, addressbook activities, in-box automation, and other e-mail activities. Full VIM capabilities from within REXX.

Order number 294 *MSR: \$295.00*
OUR PRICE: \$279.00

Source Safe

One Tree Software

SourceSafe coordinates developers on a LAN, and tracks versions of source code modules and entire projects. And SourceSafe's PM and commandline interfaces provide easy access to your entire development system.

Single User:

Order number 176 *MSR: \$395.00*
OUR PRICE: \$325.00

Five User:

Order number 177 *MSR: \$1,595.00*
OUR PRICE: \$1,295.00

SOM Class Administrator

Synaptec, Inc.

The SOM Class Administrator is a SOM administration utility to help you visually inspect all registered SOM classes running on an OS/2 workstation. Registered classes are presented in a hierarchical tree browser.

Order number 301 *MSR \$79.99*
OUR PRICE \$74.50

SPF/PC v 4.0

Command Technology

SPF/PC is a powerful file manager and full-screen text editor that emulates IBM's mainframe ISPF/PDF, providing a familiar environment for mainframe programmers who are

faced with the challenge of developing on a PC.

Order number 186 *MSR: \$295.00*
OUR PRICE: \$189.00

Unite Image Viewer Object Version 1.1

Cirrus

The first Document Image Viewer SOM developer's object specifically for OS/2. Ready for use with Watcom's VX-REXX, IBM's VisualAge, or as an API set. The viewer may be used for bitonal, greyscale and JPEG color image display, manipulation, and printing.

Order number 324 *MSR: \$1,200.00*
OUR PRICE: \$1,175.00

Unite Scanner Object Version 1.1

Cirrus

The first Scanner SOM developer's object specifically for OS/2. Ready for use with Watcom's VX-REXX, IBM's VisualAge, or as an API set. The scanner object may be used with select SCSI based devices, and includes the Unite Image Viewer Object.

Order number 325 *MSR: \$2,500.00*
OUR PRICE: \$2,399.00

VisPro/REXX

Hockware

VisPro/REXX takes the power of OS/2, Workplace Shell, and the REXX language and harnesses them into an easy-to-use visual programming environment.

VisPro/REXX, Bronze Edition

Order number 169 *MSR: \$99.00*
OUR PRICE: \$89.00

VisPro/REXX, Gold Edition

Order number 170 *MSR: \$299.00*
OUR PRICE: \$225.00

VisualAge

IBM

Client/server application development takes on new power with Visual Age, which includes visual programming tools, a library of reusable parts, distributed database support, and graphical user interface support. Includes IBM Smalltalk object oriented programming environment.

Order number 281 *MSR: \$2,495.00*
OUR PRICE: \$1,595.00

VX•REXX for OS/2

Watcom

Powerful and easy-to-use integrated environment for developing OS/2 2.x PM



applications, including a project management facility, visual designer and debugger. New to this version are Notebooks, Containers, Sliders Popup menus, DDE, objects and more.

Order number 211 *MSR: \$99.00*
OUR PRICE: \$95.00



Watcom VX-REXX Client/Server Edition Version 2.1

Watcom

A visual development environment for OS/2. Powerful connection, query, and chart objects allow you to access several databases, manipulate data and chart results quickly and easily. Features include drag-and-drop programming; bound controls; professional multithreaded, multi-windowed and drag and drop enabled application development.

Order number 266 *MSR: \$ 299.00*
OUR PRICE: \$289.00

◆ DATABASE

DB2/2

IBM

This industrial-strength database management system brings to your PC desktop and client/server LAN environment the function, reliability, and performance that users of DB2 for mainframes have come to expect—at an affordable PC price. Supports application access from OS/2, DOS, and Windows client workstations as well as NetBios and Novell IPX/SPX communications protocols.

DB2/2 CD ROM

Order number 271A *MSR: \$425.00*
OUR PRICE: \$265.00

DB2/2 3.5" diskette

Order number 271B *MSR: \$425.00*
OUR PRICE: \$265.00

DB2/2, Client Server CD-ROM

Order number 272A *MSR: \$1,995.00*
OUR PRICE: \$1,495.00

DB2/2, Client Server 3.5" diskette

Order number 272B *MSR: \$1,995.00*
OUR PRICE: \$1,495.00

HODstar™ Supporter (100-user license)

HODstar™ Support Solutions

Expands upon the Monitor product by adding call tracking. Features automatic call alarming, self-updating call queues, and support for HODstar Pager. Also available in single-user, site-wide, and 'unlimited use' license.

Order number 256 *MSR: \$685.00*
OUR PRICE: \$650.00

Manage-It!

Baron Software Services

Manage-It! provides the Help Desk administrator with the necessary software tools to track incoming calls, produce statistical reports and maintain a knowledgebase essential to the support desk.

Order number 182 *MSR: \$150.00*
OUR PRICE: \$115.00

OnCmd xBase for OS/2

On-Line Data

A native 32-bit PM implementation of the popular Xbase language. OnCmd also offers an upward migration of DOS and Windows Xbase applications into OS/2 with implicit multi-user and GUI support

Order number 214 *MSR: \$695.00*
OUR PRICE: \$160.00

SQL for OS/2 Version 3.2

Watcom

Watcom SQL for OS/2 is a high performance standalone SQL client/server DBMS for OS/2. Watcom SQL for OS/2 includes a variety of interfaces to access Watcom SQL from many popular OS/2, DOS, and Windows applications including embedded SQL application development with popular C/C++ compilers.

Order number 213 *MSR: \$395.00*
OUR PRICE: \$295.00

◆ HARDWARE

Warp Speed Light Pens

Warp Speed Light Pens, Inc.

The new Warp Speed Light Pen runs OS/2 fast. No more... "cursor, cursor where's the cursor?" Just touch and go, double click, drag and drop, fast and easy. The Warp Speed Light Pen frees up 100 square inches of desk space. The first 100 orders will receive a free T-Shirt: "I got 100 free inches!"

Order number 210
 With ISA Adapter card: *MSR: \$199.00*
CLOSEOUT PRICE: \$50.00

Order number 210A

With MCA Adapter card: *MSR: \$199.00*
CLOSEOUT PRICE: \$50.00

◆ NETWORKING

Desktop Observatory

Pinnacle Technology, Inc.

Remotely configure and password-protect desktops. Prevent deletes, copies, moves, dragging, shadows, or renames, or hide objects from view. Launch your own C or REXX routines on any network client, based on event.

Order number 124 *MSR: \$179.00*
OUR PRICE: \$75.00



IBM LAN Server 4.0 And Upgrades

LAN Server 4.0

IBM

LAN Server is easy to use and easy to grow, making it the best network operating system for small and medium sized businesses as well as large and corporate installations. Supports OS/2, Windows, and Macintosh, as well as most Ethernet and Token Ring adapters.

Lan Server 4.0—Entry, CD-ROM

Order number 273A *MSR: \$795.00*
OUR PRICE: \$525.00

Lan Server 4.0—Entry, 3.5" diskette

Order number 273B *MSR: \$795.00*
OUR PRICE: \$525.00

Lan Server 4.0—Advanced, CD-ROM

Order number 274A *MSR: \$2295.00*
OUR PRICE: \$1,749.00

Lan Server 4.0—Advanced, 3.5" diskette

Order number 274B *MSR: \$2295.00*
OUR PRICE: \$1,749.00

LAN Server Upgrades

Entry to Entry

Upgrades LAN Server Entry version 2.0 & 3.0 to LAN Server version 4.0

Order number 275A (CD-ROM)
MSR: \$395.00
OUR PRICE: \$295.00

Order number 275B (3.5 diskette)
MSR: \$395.00
OUR PRICE: \$295.00

Entry to Advanced

Upgrades LAN Server Versions 1.0, 1.2, 1.3 and Entry 2.0 & 3.0 and 4.0

Order number 307A (CD-ROM)
 Order number 307B (3.5 diskette)
MSR: \$1,570.00
OUR PRICE: \$1,050.00

Advanced to Advanced

Upgrades LAN Server Advanced Version 2.0 and 3.0 to LAN Server 4.0

Order number 308A (CD-ROM)
 Order number 308B (3.5 diskette)
MSR \$495.00
OUR PRICE \$325.00

HODstar Broadcaster (site-wide license)

HODstar Support Services

Provide your employees with a quick and convenient way to keep up-to-date with your company's activities! Employees can browse current and older messages, cut and paste critical information such as phone numbers and schedules to their own applications, or print and save individual messages. Also available in 'unlimited-use' license. Uses the same database as all HODstar products.

Order number 302 *MSR: \$225.00*
OUR PRICE: \$210.00

Unlimited site-license

Order number 310 *MSR: \$375.00*
OUR PRICE: \$365.00

HODstar™ Monitor (100-user license)

HODstar™ Support Solutions

HODstar's base-line product, Monitor provides your support staff complete profiles and assignments for all resources on any network without giving users access to the actual servers. Also available in single-user license, site-wide, or 'unlimited use' license.

Order number 254 *MSR: \$285.00*
OUR PRICE: \$269.00

LANtastic for OS/2

Artisoft, Inc.

LANtastic for OS/2 brings easy to use networking and peer-to-peer sharing to the OS/2 platform.

Order number 287 *MSR: \$139.00*
OUR PRICE: \$115.00

TCP/IP v2.0

IBM

This is a collection of TCP/IP communication tools that allows you to establish an integrated computing environment between the most popular brands of workstations and hosts—IBM and non-IBM alike.

Order number 276 *MSR: \$230.00*
OUR PRICE: \$165.00

TCP/2-OS/2 Distribution System

Essex Systems, Inc.

This product provides TCP/IP connectivity for OS/2. It supports all released versions of OS/2 and NDIS, CM, and ODI drivers. TCP/2 provides network access from protected, real, and WIN-OS2 sessions, and offers IP Gateway capability.

Order number 125 *MSR: \$475.00*
OUR PRICE: \$399.00

◆ MANUFACTURING

ONSPEC 32

ONSPEC Automation Solutions

Advanced supervisory control and monitoring solution designed to work in a lab or with plant-floor automation systems to provide real-time data acquisition, control, alarming and trending. Native 32 bit micro version takes full advantage of OS/2 power.

Order number 185 *MSR: \$995.00*
OUR PRICE: \$695.00

◆ IMAGING

UniteLite

Cirrus

UniteLite is a workplace shell enabled imaging product for OS/2 2.1 and WARP. Advanced, yet easy-to-use features: scan, view, organize folders and print.

Order number 289 *MSR: \$295.00*
OUR PRICE: \$245.00

◆ RAID SOFTWARE

EZRAID for OS/2

PRO Engineering, Inc.

This software RAID solution supports RAID Levels 0, 1, 4, and 5. It works with SCSI, ESDI, and IDE disk interfaces and includes powerful array management tools.

Order number 127 *MSR: \$795.00*
OUR PRICE: \$625.00

◆ BOOKS

Advanced OS/2 Presentation Manager Programming

Thomas E. Burge and Joseph Celi
(John Wiley & Sons)

Written by two IBM insiders, this definitive reference clearly explains OS/2 and its graphical user-interface, the Presentation Manager, and provides the reader with tips, tricks, and techniques in clear, concise C code.

Order number 237 *MSR: \$34.95*
OUR PRICE: \$29.95

Application Development Using OS/2 REXX

Anthony Rudd
(John Wiley & Sons)

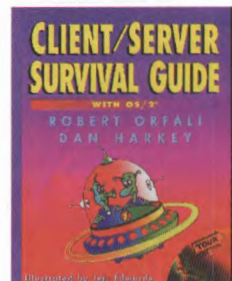
A concise and complete source of information necessary for developing applications using REXX in an OS/2 environment. Complete examples, devoid of superfluous details, make even the most complex concepts clear and easy to understand.

Order number 220 *MSR: \$39.95*
OUR PRICE: \$34.95

C and C++ Programming in the OS/2 Environment

by V. Mitra Gopaul
(Van Nostrand Reinhold)

Order number 202 *MSR: \$39.95*
OUR PRICE: \$34.95



Client Server Survival Guide for OS/2

by Robert Orfali and Dan Harkey
(Van Nostrand Reinhold)

Client/server is reinventing every aspect of computing from operating systems and communi-

cations to application architectures. This book helps you separate the theory from reality.

Order number 209 *MSR: \$39.95*
OUR PRICE: \$34.95

Client Server: The 10% You Need To Know

by Randy Langel
(IBM)

The book or multimedia CD-ROM are in-house consultants that explain all the major business, organizational, political, process and technology issues of Client/Server. Common success factors are detailed and Rules-of-Thumb are presented.

Order number 323 *MSR: \$249.95*
OUR PRICE: \$210.00

Designing OS/2 Applications

David E. Reich

(John Wiley & Sons)

The critical issue of basic OS/2 design applications are covered in full detail in this comprehensive book. OS/2 programmers will find coverage of programming and application design not documented anywhere else.

Order number 238 *MSR: \$34.95*
OUR PRICE: \$29.95

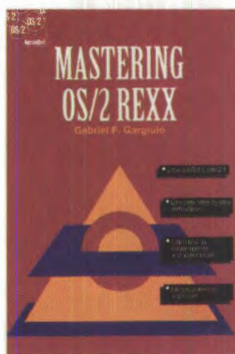
Instant OS/2! Porting C Applications to OS/2

by Len Dorfman
(McGraw-Hill)

Instant OS/2! gives C programmers a way to create programs and interfaces for DOS and OS/2 using the exact same source code! With Len Dorfman's platform-tested techniques, software developers don't even have to know how to use OS/2, much less how to program for it.

Order number 227 *MSR: \$34.95*
OUR PRICE: \$29.95

NEW!



Mastering OS/2 REXX

Gabriel F. Gargiulo (John Wiley & Sons)
Gargiulo applies his considerable technical and teaching talents in this book with rewarding results. Emphasizing real-world usage instead

of theory, his approach guarantees a quick and absolute mastery of REXX programming.

Order number 222 *MSR: \$39.95*
OUR PRICE: \$34.95

Maximizing OS/2 2.1

by John Little, Toby Pennycuff, Marlene Semple & Stephen Gutknecht (Prentice Hall)

The advanced guide to showing users how to take full advantage of OS/2's powerful features. Includes a disk containing OS/2 applications; provides task-oriented examples and covers the subjects of OS/2 connectivity, optimization, and organization.

Order number 196 *MSR: \$39.95*
OUR PRICE: \$34.95

OS/2 2.1 Bible w/disk

by Peter Franken (Abacus Books)

The executive's guide to working with IBM's OS/2. Tells you everything you want to know about OS/2 2.1 and more. IBM accredited.

Order number 258 *MSR: \$34.95*
OUR PRICE: \$29.95

OS/2 WARP Bible with Disk

by Peter Franken (Abacus Books)

The executive's guide to working with IBM's WARP. Tells you everything you want to know about OS/2 WARP and more. IBM accredited.

Order number 322 *MSR: \$34.95*
OUR PRICE: \$29.00

OS/2 Online Book Collection

IBM

This CD-ROM contains technical documentation for IBM programs including LAN Server, various development tools, communications, and the OS/2 operating systems 2.0 and 2.1. All documentation files are in ASCII format and may be viewed using the IBM Library readers included on the disk.

Order number 283 *MSR: \$49.00*
OUR PRICE: \$34.95

OS/2 Presentation Manager Programming for COBOL Programmers, Revised Edition

by Robert B. Chapman (John Wiley & Sons)

Learn all the techniques and basic skills you need to create applications using OS/2 2.1, including the new 32 bit compiler and Presentation Manager.

Order number 223 *MSR: \$39.95*
OUR PRICE: \$34.95

OS/2 Presentation Manager GPI: Graphics Programming Guide to the 32-bit Operating System

by Graham C.E. Winn (Van Nostrand Reinhold)

Introduction to simple text and graphics output; presentation spaces and device contexts; drawing primitives and attributes; fonts; bitmaps; color labels and palettes; coordinate spaces and transformation; clipping and regions; orders, elements and segments; correlation and boundary data accumulation; metafiles; presentation manager printing and plotting.

Order number 310 *MSR: \$36.95*
OUR PRICE: \$32.95

OS/2 2.1 Rexx Handbook, Basics, Applications and Tips

by Hallette German (Van Nostrand Reinhold)

The most thorough and useful guide yet published on the use of REXX interpreters and compilers. Includes a complete basic REXX tutorial, plus specific techniques for applications development.

Order number 148 *MSR: \$29.95*
OUR PRICE: \$25.95

OS/2 V2++ Class Library: Power GUI Programming with CSet++

by Law, Leong, Love and Tsui

This one-stop reference and tutorial provides the best ways to use the IBM Class Library: User Interface that comes with the IBM C-Set/2 product. It covers functions, usage scenarios, code examples, and design factors for library features ranging from basic to advanced. Software developers and power users at all levels will benefit from its hands-on guidance to using the class library.

Order number 311 *MSR: \$36.95*
OUR PRICE: \$32.95

PC Users Guide to AS400

by Henry W. Kliever & Bradley D. Kliever (Van Nostrand Reinhold)

Helps enterprising PC experts hone their skills on IBM's premiere mid-range system.

Order number 244 *MSR: \$39.95*
OUR PRICE: \$34.95

**HOT
VALUE**

REXX Reference Summary Handbook

(CFS Nevada, Inc.)

The second edition of the award-winning handbook is a 160-page, "keyboard-side" companion which details all of the instructions and functions in SAA REXX distributed with OS/2.

Order number 253 *MSR: \$19.95*
OUR PRICE: \$17.95

Stepping Up to OS/2 2.1

by R.M. Albrecht & M. Plura (Abacus Books)

For users upgrading from DOS to IBM's OS/2 2.1. From installation and configuration tips to your first encounter with the Workplace Shell, this book shows you the easy way to get started. IBM accredited.

Order number 259 *MSR: \$16.95*
OUR PRICE: \$14.95

Stepping Up to OS/2 WARP

by R.M. Albrecht and M. Plura (Abacus Books)

For users upgrading from DOS to IBM's OS/2 WARP. From installation and configuration tips to your first encounter with the Workplace Shell, this book shows you the easy ways to get started. IBM accredited.

Order number 321 *MSR: \$16.95*
OUR PRICE: \$14.50

The Ultimate OS/2 File Management Tool Kit

by Len Dorfman and Mike Stegman (McGraw-Hill)

This one-of-a-kind book/disk combination gives OS/2 users the information and file management utility programs they need to organize their files quickly and easily. The bundled disk contains a complete version of OS/2Tree 1.3.

Order number 224 *MSR: \$29.95*
OUR PRICE: \$24.95

Using OS/2 2.1, Third Edition, Special Edition

by Barry Nance (Prentice Hall)

Using OS/2 2.1 delves into networking, security, client/server applications, and top-notch performance tuning. Power users will find in-depth coverage of optimization, configuration, and software integration with OS/2.

Order number 193 *MSR: \$34.99*
OUR PRICE: \$29.99

Writing OS/2 REXX Programs

by Ronny Richardson (McGraw-Hill)

Comprehensive and easy-to-follow, this much-needed guide gives readers—even those who

CLEARANCE ON BOOKS

Client/Server Programming with OS/2 2.1, Third Edition

by Robert Orfali and Dan Harkey
(Van Nostrand Reinhold)

A 1000+ page virtual encyclopedia, now fully updated for 2.1. Helps programmers write better and faster applications that take advantage of the 32-bit environment. All code has been fully retested.

Order number 150 *MSR: \$39.95*
CLEARANCE PRICE: \$27.50

Dvorak's Guide to OS/2, Version 2.1

by John C. Dvorak, David B. Whittle, and Martin McElroy
(Random House)

Order number 173 *MSR: \$45.00*
CLEARANCE PRICE: \$27.50

GUI-OOUI War: Windows vs. OS/2: The Designer's Guide to Human-Computer Interfaces

by Theo S. Mandel
(Van Nostrand Reinhold)

The first comprehensive guide to user interfaces. Applying software logic and cognitive psychology, the book explores graphical and object oriented user interfaces.

Order number 149 *MSR: \$29.95*
CLEARANCE PRICE: \$19.95

The OS/2 2.1 Corporate Programmer's Handbook

by Nora Scholin, Martin Sullivan, and Robin Scragg
(Van Nostrand Reinhold)

This complete guide teaches a modular approach to quick and efficient writing of software. Likely trouble spots are covered; the authors' suggestions on effective programming will save considerable time and frustration.

Order number 147 *MSR: \$39.95*
CLEARANCE PRICE: \$29.95

WIN FUNCTIONS: OS/2 Quick Reference Library, Volume 1

by Nora Scholin
(Van Nostrand Reinhold)

Order number 201 *MSR: \$19.95*
CLEARANCE PRICE: \$14.95

Writing OS/2 2.1 Device Drivers In C, Second Edition/Updated and Revised

by Steven J. Mastrianni, Foreword by John Soyning
(Van Nostrand Reinhold)

The update of this popular guide provides programmers and developers with the skills they need to write bug-free device drivers and get applications up and running.

Order number 146 *MSR: \$39.95*
CLEARANCE PRICE: \$27.50

are new to REXX—the tools to construct programs of varying levels of sophistication.

Order number 225 *MSR: \$39.95*
OUR PRICE: \$34.95

Writing VX-REXX Programs

by Ronny Richardson
(McGraw-Hill)

This book/disk combination tells OS/2 programmers and developers everything they need know to use the Watcom VX-REXX language to create REXX programs that have a visual interface. Written with the full support of Watcom, it's an essential guide for anybody who has purchased the VX-REXX program but needs more "how to use it" information than the manual provides.

Order number 230 *MSR: \$39.95*
OUR PRICE: \$34.95

Your OS/2 2.1 Consultant

by Herb Tyson
(Prentice Hall)

The ultimate end-user consultant. Tyson provides tips, tricks, and troubleshooting techniques for IBM's popular operating system.

Order number 191 *MSR Price: \$24.95*
OUR PRICE: \$19.95

◆ GAMES

OS/2 Poker 1.0

Reed Software, Inc.

OS/2 Poker is two games in one. The Video Poker game is just like playing a real casino video poker machine. The Interactive Poker game lets you play your cards against the Dealer's. A variety of options are available including selecting your favorite color scheme, and viewing statistics about your play. Sound effects can be turned on and off.

Order number 268 *MSR: \$49.95*
OUR PRICE: \$17.95

OS/2 Blackjack 1.0

Reed Software

Written by a former Las Vegas Casino Pit Boss, OS/2 Blackjack is easy for the beginner to play, yet challenging for the advanced player. Choose from a variety of options for the rules of the game to simulate the house rules of your favorite casino.

Order number 242 *MSR: \$49.95*
OUR PRICE: \$17.95

SimCity Classic for Unix and OS/2 DUX

A full native, 32 bit version of the award winning game that lets you become mayor of your own evolving, growing city.

Order number 288 *MSR: \$49.00*
OUR PRICE: \$39.00

Trickle Down

MultiGrain Solutions

Trickle Down challenges the creativity of children and adults alike to develop strategies that defeat its crafty artificial intelligence and still have plenty of fun.

Order number 297 *MSR \$29.95*
OUR PRICE \$12.50

NEW!

◆ OS/2 PRO MERCHANDISE

OS/2 Professional T-Shirt

White 50% blend, colorful OS/2 Professional logo. Adult size (XL) only.

Order number 130
OUR PRICE: \$12.00

OS/2 Professional baseball cap

White cotton twill with colorful OS/2 Professional logo.

Order number 131
OUR PRICE: \$7.95

OS/2 Professional Warp T-Shirt

Warp yourself! with the exclusive OS/2 Professional Warp Launch T-Shirt. Gold 100% pre-shrunk cotton. Adult size (XL) only.

Order number 291
OUR PRICE: \$10.00

◆ OS/2 PRO MEDIA

OS/2 Professional Magazine

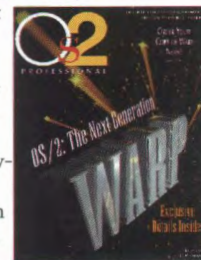
Keep up with the latest developments in the ever-changing world of the multitasking, multipiping OS/2 operating system, and save \$17.40 off the new-stand price. Not good enough? We'll throw in a free Borg poster with any paid subscription. Price: \$30 U.S.; \$45 Canada and Mexico; \$75 Overseas air.

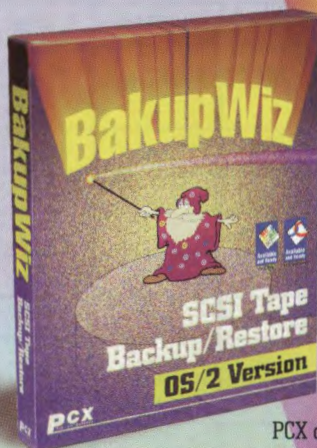
Order number 134

OS/2 Professional Magazine—back issues

Miss an important event in the OS/2 world? We've got a simple solution! April '94 thru current issue, \$7.00 each. For issues prior to April '94—call for special price.

Order number 135

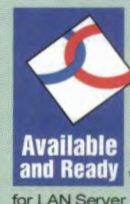




BackupWiz

OS/2 BackupWiz™ is the SCSI tape backup solution you have been looking for! Designed to exploit OS/2's multiple threading, BackupWiz gives you a quick and reliable method to completely back up your OS/2 system. HPFS and FAT file systems are supported and Extended Attributes, Long File Names, System files, and the Workplace Shell are backed up. You can even restore your entire OS/2 boot volume from tape! Ease of use is another of OS/2 BackupWiz's strong points. A simple, character oriented menu interface and command line operation are provided. OS/2 BackupWiz comes with support for most 1/4", 4mm (DAT), and 8mm tape devices. BackupWiz can also backup to other hard drives, file servers, minis/mainframes via TCP/IP, and removable drives including Bernoulli, Syquest, diskette, and magneto optical. There is even a version of OS/2 BackupWiz that supports many of the automatic tape changer mechanisms. Any SCSI host adapter that has an ADD driver can be used with OS/2 BackupWiz.

PCX also works hard to keep you satisfied after the sale with outstanding customer support. Being a small and aggressive company means that we can respond to your needs that much quicker. OS/2 BackupWiz is priced at \$149 (autochanger version \$399). PCX also has a competitive upgrade program where you can purchase OS/2 BackupWiz for just \$49 by sending in an eligible competing product. We offer a 30 day money back guarantee to protect you in case OS/2 BackupWiz does not work for you! Call our toll free number and order today!



PortaTape

PortaTape™ is your complete portable tape backup solution for OS/2. Using high speed SCSI tape devices, the PortaTape line offers capacities ranging

from 250 megabytes to 10 gigabytes. Offering backup speeds from 6 to over 18 megabytes per minute when using a high speed, bidirectional printer port, units in the PortaTape series are priced from \$995.

Members of the PortaTape series utilize a range of SCSI tape drives including 1/4 inch, 4mm, and 8 mm mounted in low profile external enclosures. Connection to the host system is via the system's parallel printer port, which may be utilized concurrently with tape drive operation. A copy of OS/2 BackupWiz

is included with each PortaTape.

PCX also markets a complete line of standard SCSI tape backup units ranging in capacity from 250mB to over 10GB. Available in both internal and external models, these units are priced from \$550. For very large backup needs, PCX offers robotic tape loader mechanisms from 48GB to over 1 terabyte.

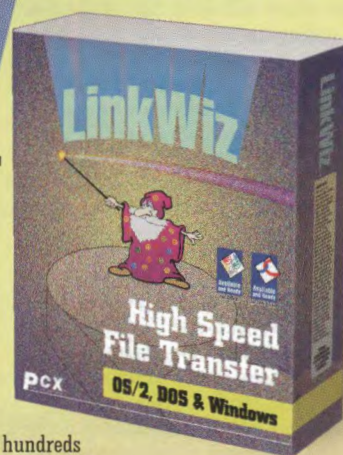
LinkWiz™ transfers files between OS/2 and/or DOS/Windows systems, over parallel cable, at 5 megabytes per minute – several times faster than any other file transfer utility.

Now... transfer files at up to 5 megabytes per minute between OS/2 and OS/2, or OS/2 and DOS/Windows, or DOS/Windows and DOS/Windows, or OS/2 and UNIX, or DOS/Windows and UNIX.

If you have lots of time on your hands, stay with your old transfer utility. But... if you want *warp speed* file transfers of large production size files and directories, then LinkWiz™ is for you! LinkWiz was developed to unleash the power of OS/2.

- Installs and runs in only minutes. ■ Intuitive operation allows anyone to make simple or massive *warp speed* data transfer between systems. ■ Special parallel and serial transfer cables are included.
- Supports Presentation Manager, long file names, extended attributes and blindingly fast 32 bit I/O. ■ Clone hundreds of other OS/2 systems from a single "seed" OS/2 system.
- DOS/Windows and OS/2 version list price is \$149. Call about our competitive upgrade offer.

If you are ready for a next generation *warp speed* performance file transfer utility... try LinkWiz now! Call or fax your order today!



FOR MORE INFORMATION OR TO ORDER CALL:

1-800-800-4PCX

PCX

3525 Del Mar Heights Road, Suite 313, San Diego, CA 92130
(619) 259-8797 • Fax: (619) 481-6474



Shipping is non-refundable. No cancellations on special order items. 20% restocking fee on hardware refunds within 30 days. No refunds or exchanges after 30 days. Prices subject to change.

AVAILABLE THROUGH
EXPRESS

Circle #123



DOT EXE

Software for OS/2

Visual Programming Comes of Age

In an increasingly OOUI-GUI world, IBM's VisualAge helps users and developers work together to build better applications.

BY KELLEY SHADDRICK

It's long been said that a picture is worth a thousand words. VisualAge, IBM's Smalltalk-based visual development tool, lends new meaning to this old maxim. In the modern code generation sense, such development tools are worth at least a thousand lines of code. Like other visual platforms, VisualAge offers a fairly complete development environment. However, unlike most others, Smalltalk gives IBM's product an object oriented edge.

With its strengths as a client/server development tool, VisualAge enables programmers to develop mission critical business applications quickly. The programming environment consists of a graphical user interface, an application builder, and a library of parts. It supports multiple communications protocols and interfaces and multiple databases, has enhanced DLL support, and supports a team programming environment.

Parts of the Whole

VisualAge provides a large collection of software objects that help you build applications immediately. The core of VisualAge is these parts—self-contained software objects that have a standardized public interface, including a set of external features that allow the parts to interact with each other.

Parts come in two major varieties: visual and nonvisual. Visual parts appear as visible objects at run time: pushbuttons, windows, data entry fields, and the like. Nonvisual parts remain invis-

ible, accessible for use through the programmed interface. Nonvisual parts include items like files, databases, and collections.

For those parts not provided in the package, programmers have several options for developing new ones: You can incorporate

existing C and COBOL code, write new code with Smalltalk, or combine the features of existing parts.

VisualAge comes in two flavors, standalone and a team version. The optional team environment adds a central repository, located on a network file server, that allows programmers to share and maintain classes, while establishing ownership and version control so parts can be managed properly. In addition to shared parts, the

team version loads most of the code onto a server, leaving your local disk largely uncluttered.

Setup

I tested the team version on a 486/50 server with 32mb of RAM running IBM LAN Server 3.0 Advanced. The client PC was a 486/50 with 24mb of RAM and 500mb of hard drive space running OS/2 2.1. That substantial amount of RAM was essential—when I stepped down to a client with 16mb, VisualAge was too slow for productive development use. However, the resulting applications could get by with 12mb. Memory was additionally impacted by Lotus Notes, Communications Manager/2, and DB2/2, all of which were running at the same time (a fairly

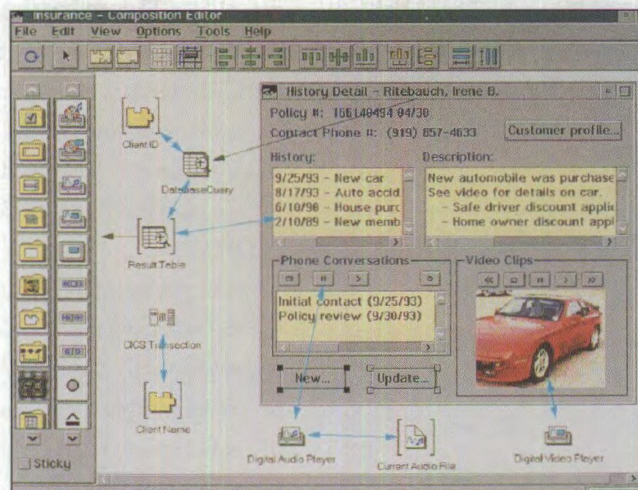


Figure 1. A view of an already constructed application in Visual Age's Composition Editor mode. This photo shows the application's parts and their connections.

The J&J Utilities

OS/2 Expletive Utilities Solution

for



New!

Release 1.5

Only \$49.95

Features:

- * Delete but.
- * Delete tree.
- * File count.
- * File locate.
- * Text locate.
- * Quickly change to deeply nested directories.
- * Safely defragment HPFS and FAT partitions.
- * Run applications at critical, high and idle priorities.
- * Schedule jobs for unattended execution.
- * View all running processes (even detached).
- * Kill running process.
- * Disk information.
- * Command line shutdown.
- * Improved tree command.
- * 32-bit multithreaded code.
- * Easy-to-use PM interface.
- * More...over 20 in total!



Available
and Ready™
for LAN Server



Available
and Ready™
for OS/2

J&J Computer Consulting
720 S. Husband, Suite 10
Stillwater, OK 74074
405-624-1472 voice
405-743-2613 fax

Available through OS/2 EXPRESS

Circle #202

Easy OS/2 Backup & Install Solutions. Tape & Rewritable Opticals.



Our Software lets you Backup OS/2 HPFS, FAT, and Hidden Files.
"Plug & Play" with Parallel and SCSI Port connections.
Also DOS, Windows, Novell, Mac, Peer to Peer, Pick, and Unix

TAPE BACKUP STORAGE

- 600 Meg & 1.2, 2, 4, 8, & 10 Gig Capacity
- Tapes format "On the Fly"
- One standard hard drive backup solution for every computer in your office!
- One disk boot

REWRTABLE OPTICAL STORAGE

- 230 Meg & 1.3 Gig Rewritable Optical Disks
- Seek Time 28msec
- Ideal for active memory, mass storage/retrieval, archiving, backup, portable computing, etc.!

Analog & Digital Peripherals Inc.
P.O. Box 499 • Troy, Ohio 45373
513-339-2241 • FAX 513-339-0070

Call 1-800-758-1041



Circle #266

DOT EXE

typical configuration in a client/server environment). The memory bite may very well be the single largest disadvantage with VisualAge.

Installation was easy and straightforward, requiring nothing more than following the install instructions. I discovered only very minor problems. In a few places the documentation incorrectly specified a field name or screen name, but selection of the proper item was obvious.

The VisualAge folder contains not only the VisualAge icon but also a host of on-line documentation including guides for multimedia, communications, SOM, and team development; a database reference; and a users' guide. The on-line manuals appear to be complete and easy to use. The sampling of tutorial and introductory information I used was very helpful.

Developing an Application

From VisualAge's initial System Transcript window you can establish the data environment you'll be working in by selecting *Database* from the Visual Tools pull-down menu. VisualAge supports several leading databases, including DB2/2, Oracle, Sybase, and the AS/400. For testing purposes I ran a local copy of DB2/2.

Once you've established the data environment, you can get to the real work at hand: developing the application. After selecting *Launch* from the same pull-down menu, you name your application from another menu. Your new project then appears in the list of applications. A quick double-click brings up the Application Browser window. From there, you create a visual part from the Classes pull-down menu and enter the composition editor, the workhorse of VisualAge.

Like other visual development tools, the VisualAge composition editor has a pallet of parts, a free-form design area, and a toolbar. To develop your application, you select the required parts and drop them on the design area. Visual parts go in the blank window; you place nonvisual parts outside of the window on the design area.

After arranging the parts, you establish the connections. This is one of the neatest parts of VisualAge. IBM's introductory example effectively demonstrates the process through the construction of a to-do list. This application has four visual parts: a data entry field, a list box, an add button, and a remove button. It also has one nonvisual part, an ordered collection. I'll use this example to give you an idea of the connection

DOT EXE

process; note how few actions it requires.

Since the visual list box corresponds to the data items in the ordered collection, the first connection establishes this relationship. Clicking the right mouse button over the ordered collection brings up the part's pop-up menu. You establish one end of the connection by selecting **Connect** followed by **Self**. Left clicking the mouse over the list object completes the connection. VisualAge draws a line between the objects to illustrate the relationship between the collection and the list.

The basic click-and-connect theme repeats itself throughout the process, with minor variations. For example, when designating a button action, you follow the **Connect** object menu selection with **Clicked** (e.g., establish a connection when the user clicks the button). In the to-do list example, the target of this operation then becomes the list object and its associated **Add** action. Again, a line visually demonstrates the connection, but you must perform one more step to designate what gets added when you click the button. A Connect String from the text entry box to the line between the button and the list box completes the picture. With a few more variations, you can establish a link between a **Remove** button and deleting an item from the list.

The Real World

I created several PIM-style database applications using the same process. More importantly, I never wrote a line of Smalltalk code. The appeal of VisualAge is that manual code grinding remains minimal so long as the parts to build your application exist. Fortunately, VisualAge provides plenty of useful parts.

The shift from a written/procedural to a visual/object oriented programming medium establishes a new paradigm. With procedural languages, the separation between developers and users remains wide. Developers analyze, design, and code the application. Users have some influence, but often remain acutely unaware of the process by which applications develop and unable to communicate their requirements effectively.

With VisualAge, though, you have fabricators, builders, and users. The fabricators, a relatively small group, build parts using the Smalltalk language (or existing code and parts). The largest group is the builders, who use those parts to build applications. Builders include not only programmers, but users. As the lines of demarcation between developers and users becomes less formidable, communications between them becomes easier, and applications are more likely to meet the users' requirements.

The graphic features the product name 'Unite Lite' in large, stylized blue letters. Above it, the words 'PERSONAL IMAGING' are written in a smaller, purple, sans-serif font. A purple brushstroke graphic is positioned to the right of the main title. Below the title, there are three bullet points with square icons, each followed by a feature description. At the bottom, there is a phone number, company name, address, and a product order number. The entire advertisement is set against a light gray background with a subtle grid pattern.

Unite Lite
PERSONAL IMAGING

Desktop Imaging for OS/2

UniteLite™ is the exciting new desktop imaging solution from established imaging leader, Cirrus Technology.

Scan, view and organize your documents right from your desktop. Exchange files with leading OS/2 fax software. Powerful drag-and-drop features. And, UniteLite is designed for OS/2 Warp, Version 3. It's all here.

User friendly yet full featured, UniteLite helps you manage your work your way.

- **HP ScanJet II support**
- **Workplace Shell enabled**
- **File cabinet and folder management**

1-800-272-1135

Cirrus Technology
Fourth Floor, 5301 Buckeystown Pike, Frederick, Maryland 21701

ORDER PRODUCT NUMBER "CIR-LITE-1"

Available through OS/2 EXPRESS

Circle #4

January 1995 OS2 Professional 49

Solve your OS/2 Communications Needs.

PMCOMM

- ✓ Supports terminal emulation, file transfers (including Xmodem, Ymodem, Zmodem, Kermit, and CISB protocols), internal script language.
- ✓ Uses the REXX that comes with OS/2 for scripts, drag and drop, and many other features.
- ✓ Can be set up to use a modem pool with Lan Server.
- ✓ Allows total keyboard remapping.

List price: \$99.95 plus shipping and handling

MULTI-NET BBS

- ✓ Designed to be very configurable, yet easy to install and maintain.
- ✓ External programs can be executed directly from the main menu as well as from displayed files.
- ✓ REXX programs can be used as external programs, allowing you to access SQL data bases, OS/2 commands, as well as most BBS functions including file transfer protocols.
- ✓ LAN version allows OS/2 workstations on the LAN to log onto the BBS (including E-mail).
- ✓ Ideal for product support.

Prices start as low as \$195.00

Multi-Net Communications

15702 Black Bear Ct., Klamath Falls, OR 97601
(503) 883-8099 BBS (503) 883-8197



Circle #201

DOT EXE

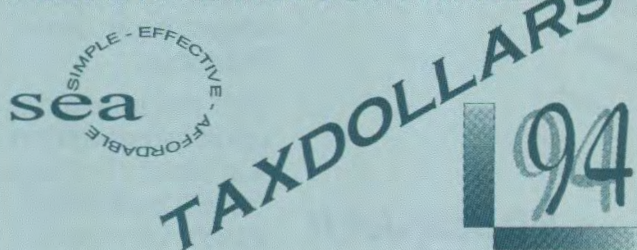
IBM's VisualAge offer both MIS staff and trained users a powerful development platform. Through its use of object oriented models, reuse of existing C and COBOL code, and reusable parts, VisualAge leverages the skills of both programmers and users to produce business applications. It supports both the OS/2 and Windows environments, and supports a wide range of tools and databases. VisualAge ships with a large collection of parts, with the promise of many more to come from third-party developers.

I found that although I could create applications in fairly short order, training in both object oriented fundamentals and in VisualAge itself is mandatory. MIS staff moving from a procedural language to VisualAge need to understand OO design and development as well as programming in a visual environment. This can be a drawback in a busy environment, but the investment should yield a rapid payoff.

Price remains the final hurdle. At \$4,995 for a team license and \$2,495 for a standalone license, the cost of entry is steep. However, these prices are in line with competitive products such as Digital's PARTS Workbench v2.0, which is priced at \$1,995 for a single user. Those companies that run OS/2 with at least 24mb of memory for developers and 12mb for users won't have a problem running VisualAge. Those with less will need to include the cost of memory upgrades as well. ♦

Kelley Shaddrick is director of networking and technical support with EBP HealthPlans, a Minneapolis based managed healthcare company. He can be reached on CompuServe at 75671,110.

OS/2 WARD CELEBRATION PERSONAL TAX SOFTWARE



Forms: 1040, W2, 2106, 2441, 8829
Schedules: A, B, C, D, E, EIC, R, SE
Direct Deposit by IRS Approval 1040PC

Easy to Use - Automatic Calculation - Final Review & Analysis - Comprehensive "WHAT-IF" - Direct Deposit with IRS Approved 1040PC - Tax Tips - ETC.

The best OS/2 personal tax software is better than ever because it is FREE to the first 250,000 orders.

~~\$39.95~~ **FREE**

Planning Version (\$7.95 S&H)
Ready & Ships Now
Final Version (\$7.95 S&H)
Ships in Late Jan95
Both Version (\$11.95 S&H)
* CA Resident Adds 7.75% Tax

Send check to:
BT&T Consumer Technology
30251 Golden Lantern - Suite E 405
Laguna Niguel, CA 92677

Or get your credit card ready and call (24 hours - 7 days):

1-800-OS2-TAXDOLLARS or 1-800-672-8293

Shipping & Handling (S&H) Charge is non-refundable. Must write or mention code: OS2PS01

BT&T CONSUMER TECHNOLOGY

Available free with any OS/2 EXPRESS order (\$4 S&H) Circle #191

50 OS/2 Professional January 1995

AT A GLANCE

Visual Age 2.0

IBM Direct

4111 Northside Parkway

Atlanta, GA 303327

(800) 426-2255

List Price: single version \$2,495

team version: \$4,995

Relish Cuts the Mustard

BY MERRILL R. (RICK) CHAPMAN

If you're tired of scraping Post-it notes off your monitor screen and scrambling for that always buried Day-Timer, consider spreading Sundial Systems' Relish on your computer desktop. This 32bit OS/2-specific PIM integrates tightly with the Workplace Shell. (Yes, taking my cue from Sundial, there will be several bad deli puns in this review.)

The first thing you have a right to ask of any PIM is that it allow you to sit down and immediately do something useful. Relish meets that test. Its interface is logical, intuitive, and inviting. You will be entering names into its address book and getting yourself organized five minutes after installing the product.

Recently updated to version 2.20, Relish sports two interfaces, original and "trendy" (their word). If you're a new user, go straight for the interface nouveau. Long time users should probably switch over as well.

The primary metaphor of Relish is the Note. Relish offers seven different types of notes: appointments, meetings, notations (a general purpose note), run programs, phone calls, to dos, and phone book entries. Each is created separately. Notes are stored in lists and can be organized and viewed on a daily, weekly, or monthly basis, or for any time period you choose. Your notes can also be organized into logical groups—allowing you, for instance, to organize family information separately from business.

A key attraction of Relish is its flexibility. For example, notes of one type can easily be turned into another. Does a phone call need to be rescheduled as a meeting? No problem. Simply call up the note, enter new information if necessary, then pick a new note type.

Relish is almost a genius at recognizing different date formats

and converting them into English. It was able to convert "w de 14 94" into Wed Dec 14 1994 with no trouble, thank you. A time bar also simplifies time notation: just place your cursor on the slider and entries like 10:45 to 12:55 are typed for you. It would be even nicer if the program would allow me to hop over to the calendar, move to a date several weeks in advance, pick it, and have it link to the note. Right now, you must either type the date or click repeatedly on a next date button.

Like any self-respecting PIM, Relish sports a flashy icon bar. Right clicking on an icon displays a pop-up menu with the name of the icon; help on the icon; and delete, move, insert, and setup options. It's tasty, but I would still like to see explanatory text under each icon. Another nice touch is that when you minimize Relish, it displays a monthly calendar that you can park in a handy spot on your desktop. (You can turn this off if you like.)



Figure 1: A view of the Relish Desktop, including the Note Palette, Monthly Calendar, and the Add Phone Book entry screen.

The product provides menu items for viewing your To Do list, Phone Book, Floating Notes, and Overdue items. Oddly enough, Relish does not provide an immediate view of meetings or phone calls. I think it should. However, you can develop such views by using the program's lookup features.

Relish's time and task scheduling facilities are basic, but powerful enough for an individual's needs. The program allows you to schedule your time by day, week, or whatever period you'd like. Unlike some more dictatorial programs I've looked at, this PIM will let you overbook a time period.

As befits an OS/2 product, Relish makes extensive use of drag and drop. If you need to change a meeting date, you can simply drag it to the calendar and drop it on the appropriate day for an

Take control of your OS/2 scheduling needs with
Advanced Task Scheduler for OS/2

ATS

Version 3.0

Are you looking for a way to manage your production job streams? • Do you have programs that need to run after the completion of one or more other programs? • Do you want to process files that have just been received from another system or modified locally? • Do you need to schedule around holidays and periods of heavy CPU load?

With ATS you can run your programs when **YOU** want them to run without you having to be there.

Major Features of ATS for OS/2:

- ✓ Manage production job streams
- ✓ Programs can be scheduled to run anytime
- ✓ Programs can be dependent upon files, other programs, holiday schedules, and external signals
- ✓ Integrated operators console
- ✓ Logging—to file and console

New Features:

- ✓ Job queues—for managing your resources while managing your tasks
- ✓ Periodic scheduling
- ✓ Complete API and command line interface

Upgrades available from
 Version 2 and other Task
 Schedulers. Call or E-mail
 for details.

MHR

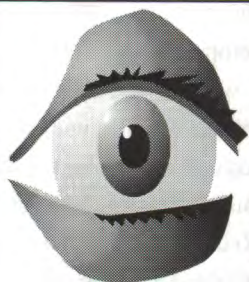
Software and Consulting

2227 U.S. Highway #1 • Suite 146 • North Brunswick, NJ 08902
 Voice: (908) 821-0359 • Fax: (908) 821-0350 • CompuServe 70312,627

Available through OS/2 EXPRESS

Only
\$349

Circle #92



**WHEN THE
 MEDIA
 TOUTS
 YOUR
 PRODUCT,**

**PEOPLE
 WILL TALK.**



We produce effective public relations for high tech products.

With over sixteen years of experience in positioning products in high profile reviews and feature articles, we know how to get results.

Isn't it time you got wired to the media?

1-800-287-2279 Steve Simon, Ext. 237.

S&S
 PUBLIC RELATIONS

DOT EXE

automatic update. And of course you can print out your calendars and other information in several different formats, including some of the popular Avery layouts. However, if you need to do extensive departmental or enterprise scheduling, a dedicated product like IBM's Time and Place/2 is a better choice.

In previous versions of Relish you could not have more than one view of your information displayed at a time. The latest version overcomes this problem with what Sundial calls "Buns." (Yes, I know, but that's what they call them.) A Bun is an object that spins off a separate Relish session. The new session then displays the view you wish associated with the Bun. You may run as many, er, Buns as you wish, and they are all hot-linked, with relevant changes in one showing up in every other. Sundial provides you with a collection of standard Buns and you create new ones by simply tearing a new Bun off the Bun template.

Buns are a very neat example of how a product can take advantage of OS/2's object orientation and SOM to quickly add new capability to a product without major recoding—developers, take note.

The biggest fly in the Relish jar is the program's lack of a built-in backup feature. Most of us develop a very personal relationship with our data, and Relish needs to do a better job of assuring us that it is thinking of our welfare.

Despite its lack of an organized backup procedure, Relish is a fine mix of power and ease of use and takes full advantage of OS/2. It has a permanent place on my desktop. ♦

.....
Merrill R. (Rick) Chapman is president of Aegis Resources, a software marketing consulting firm. He is also the author of The Product Marketing Handbook, a marketing guide for software publishers, and the coauthor of the Software Publishers Association's U.S. Software Channel Marketing.

AT A GLANCE

Relish 2.20

Sundial Systems Corporation

909 Electric Ave., Ste. 204

Seal Beach, CA 90740

(310) 596-5121

List price: \$89.00

VOTE NOW

for the 1995 OS/2 Professional Update Awards

*Recognizing companies and products for excellence in optimizing
and broadening the OS/2 environment.*

OS/2 Professional judges will evaluate products nominated by our readers and contributors in 12 categories. That means we need you, our readers, to give us your input.

Winners will be announced at the opening night reception of this year's OS/2 Technical Update attached to NetWorld+Interop, March 27-30, in Las Vegas.

So send in your nominations now!

Best OS/2 Compatible System

The best overall hardware platform for OS/2.

Best OS/2 Laptop

The best designed portable PC as an OS/2 platform.

Best OS/2 Monitor

The best display in an OS/2 environment.

Best OS/2 Printer

The best printer in an OS/2 environment.

Best Backup System

The best native OS/2 backup technology.

Best Communications Tool

The best available native OS/2 communications software.

Best OS/2 Utility

The most innovative and useful OS/2 utility.

Best OS/2 Word Processor

The best 32 bit OS/2 word processor.

Best Compiler

The most useful compiler within the OS/2 environment.

Best Visual Development Tool

The best native OS/2 tool for creating GUI application components.

Best REXX Tool

The most innovative and useful REXX utility.

Best OS/2 Book

The best book for OS/2 users.

Your name, title, address, and phone number:

Judges: Edwin Black, Bradley D. Kliwer, Michael S. Kogan, Chris Wees.

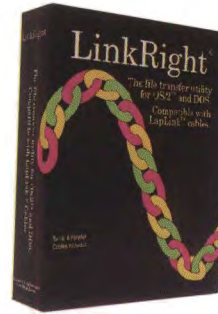
Photocopy this page and fax to 301-770-7062, or mail to OS/2 Professional, 172 Rollins Ave., Rockville, MD, 20852

OS/2 Vendor Council

"Growing the market for OS/2 and related products."

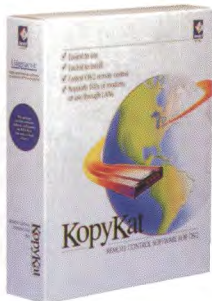
Performance Plus Version 3 by Clear & Simple, Inc.

Performance Plus, Version 3, a tuning and utility kit for OS/2 Warp and 2.1, is simple enough for an end-user yet powerful enough for a techie! A new simple interface (GUI) and fine tunes your system with context sensitive help that "teaches while you tune." Includes a DOS/Win application optimizer and numerous other new features. Comes with extra diskette filled with spectacular OS/2 bitmaps.



LinkRight by Rightware

LinkRight is a parallel port and serial port file transfer utility made especially for OS/2. The package includes a PM version, an OS/2 command line version, and a DOS version. Maintain EA's and long file names. Supports HPFS and FAT files. CRC checking to insure accurate transfers. Compatible with LapLink cables.

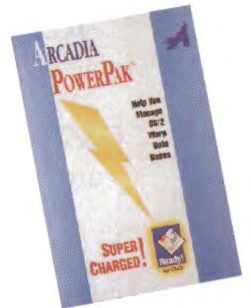


KopyKat by Hilgraeve

KopyKat is a graphical OS/2 remote control solution. You can display the entire desktop of a remote OS/2 system in a window on your OS/2 system. Do anything remotely, that you can do locally. KopyKat supports 200+ modems by name and any Netbios compatible network.

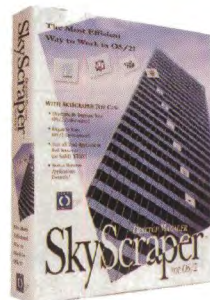
PowerPak by Arcadia Technologies, Inc.

The PowerPak is an indispensable add-on tool for your IBM Works suite. It creates programs for maintaining Works databases and schedules them according to your requirements. Ask your dealers for special bundle price (only \$15!) with Warp upgrade.



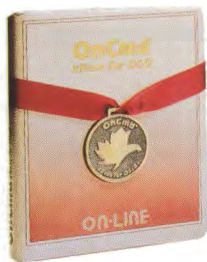
SkyScraper™, Desktop Manager for OS/2 by Binar

Now you can realize the full power of OS/2 with SkyScraper™, Desktop Manager for OS/2. Switch between your open applications instantly, run all of your applications full screen at the same time, and launch programs and DOS or OS/2 text sessions with our Program Launcher. With SkyScraper you can completely customize your OS/2 environment!



Relish by Sundial Systems Corp.

Calendar, to do's, and phone book—integrated for reliability, independent for flexibility. Schedule easily; categorize commitments; repeat events; print schedules; run programs; dial calls; prioritize to do's. So convenient! Buns with hot-linked views; extensive drag-drop; LAN version, too.

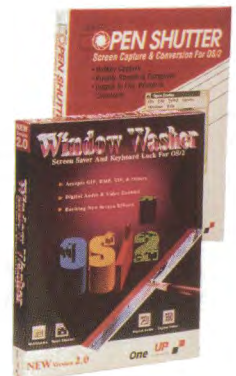


OnCmd xBase for OS/2 by On-Line Data

OnCmd harnesses the power and the speed of OS/2, enabling you to create native 32 bit GUI applications in the familiar xBase language. OnCmd's user-friendly development environment comes with screen painter, report generator, and is client/server ready. Unlimited runtime licensing available.

Window Washer & Open Shutter by One Up Corporation

Window Washer is a screen saver for OS/2 which provides password protection and Full Screen keyboard monitoring. Version 2.0 features many exciting effects, digital audio and video. Open Shutter is a screen capture utility that allows users to capture desktop images, modify, then output to a printer, clipboard or a variety of file formats.



These products are certified for OS/2

Call (415) 491-1565 for more information on the Vendor Council.

Available through

OS/2 AVAILABLE THROUGH
EXPRESS
1-800-OS2-KWIK

MicroWAREHOUSE

EGGHEAD SOFTWARE
North America's Software Eggsperts.

PROVANTAGE
1-800-336-1166

INDELIBLE BLUE
1-800-776-8284

Available and Ready™
for OS/2

Circle #182



MARKETLINE

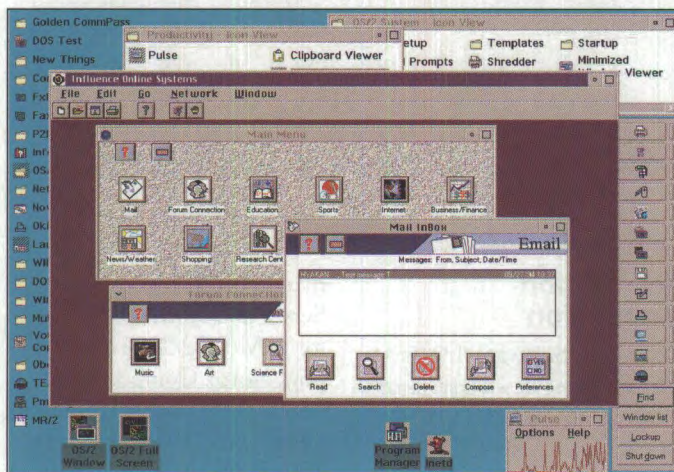
Product News for the OS/2 User

SCOOPS

On-line Development Tool Nears Beta

A small group of programmers in Texas has developed an OS/2-based software architecture for building custom on-line services. Influence Online Systems, based in Houston, hopes to begin beta testing I-Online sometime next month.

The company initially plans to utilize the software to design custom on-line services from the ground up for clients, and it is specifically targeting the cable industry.



I-Online's software architecture encompasses true multitasking, multimedia, MPEG video, audio on demand, and Internet access supporting WWW.

The product will consist of a framework that will include all necessary software for designing a front end for the service, the network operating system, and a predefined system for billing.

While no contracts are yet in place, Influence Marketing Director Gary Olah says Influence is currently holding discussions with several cable companies interested in using I-Online to design front ends for the delivery of cable services.

New Products

Put a rhino on your screen

Rhintek, Inc. has released RhinoCom v1.0, a native OS/2 PM communications package geared toward the business and professional user. RhinoCom was built on an object oriented model, with object icons representing sessions, configurations, and dialing directory entries. It is fully multithreaded and designed to accommodate multiple sessions in multiple comm port environments. Transfer protocol support includes XMODEM, YMODEM, ZMODEM, and VT100 and ANSI terminal emulation.

RhinoCom is now available

for \$199. Rhintek Incorporated, 8835 Columbia 100 Parkway, Columbia, MD 21045. (800) 234-4546.

Pile of compilers

Microway is now shipping four compilers for OS/2: NDP Fortran-77, NDP Fortran-90, NDP C/C++, and NDP Pascal. Each language comes with IBM's Toolkit; the OS/2 WorkFrame is an available option. These Pentium-optimized compilers include advanced numeric operations such as loop unrolling, numeric register caching, and numeric register coloring. They also utilize FXCH instructions to streamline x87 stack access and

a new peepholer, which results in smaller code. The NDP OS/2 Pentium Developers Pack sells for \$895 and includes one Pentium NDP Fortran, C/C++, or Pascal OS/2 compiler; the IBM OS/2 Toolkit, and the IBM WorkFrame. NDP Fortran-90 is an additional \$395. Microway, PO Box 79, Kingston, MA 02364. (508) 746-7341.

Power Tripp

Tripp Lite is shipping PowerAlert Plus, UPS monitoring software designed for use with the company's SMART Series product line. This 32 bit application enables users to moni-

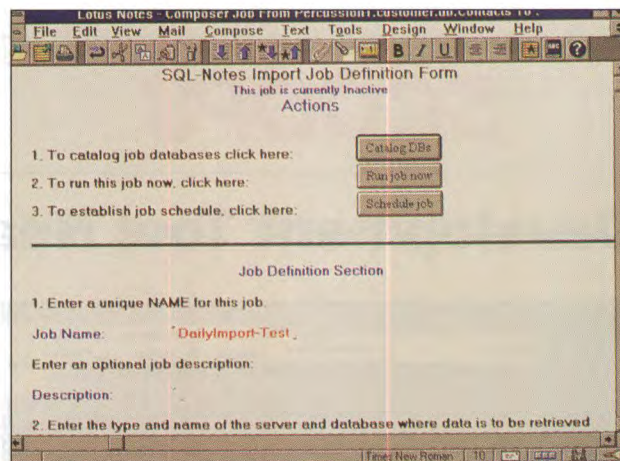
tor and print detailed information on UPS performance and utility voltage history. In the event of a power failure, PowerAlert Plus automatically shuts down all applications. The user can also customize shutdown procedures for



applications such as Lotus Notes as well as scheduled shutdowns. PowerAlert Plus lists for \$99 and ships with serial port cables. Tripp Lite, 500 N. Orleans, Chicago, IL 60610-4188. (312) 755-5400, fax (312) 644-6505.

Disk control

Perceptive Solution, Inc. has released Pathfinder, a new line of non-caching SCSI-2 disk controllers. The products are available in several bus choices including ISA (2100 series), VESA (2300 & 2500 series), and PCI (2700 series). This new line of controllers utilizes a RISC based SCSI I/O processor for improved performance, and supports drives up to 8gb. The line also features multithreaded I/O support, and is compatible with software for managing bad block remapping, caching, and formatting. Pricing for the Pathfinder line ranges from \$250 to \$370. Perceptive Solutions, Inc., 2700 Flora Street, Dallas, Texas 75201. (214) 954-1774, fax (214) 953-1774.



Percussion Software's new releases for Sybase, Oracle7, and IBM DB2/2 offer users an easier way to transfer bulk, bi-directional information between Lotus Notes and enterprise data.

Percussion discussion

Percussion Software, Inc. has released three new versions of Notrix Composer for OS/2 Lotus Notes servers. This data integration software allows Notes users to view and manipulate information from Sybase, Oracle7, or IBM DB2/2 databases without complex programming. These new applications allow the bulk bi-directional transfer of information between Lotus Notes and enterprise databases. Notrix Composer for

Sybase and Microsoft SQL Server and Notrix Composer for IBM DB2/2 are available now. Notrix Composer for Oracle7 is scheduled to ship in January. Each of the three versions for OS/2 Notes servers is priced at \$4,995 and can be purchased directly from Percussion Software. Percussion Software, Inc., 222 Berkeley St., Suite 1620, Boston, MA 02116. (617) 267-6700, fax (617) 266-2810.

Hear from aFAR

FAR Systems, Inc. has released FAR Voice 3.0, a tool for developing OS/2-based voice and fax applications. The product uses the Btrieve database engine, allowing any program written for OS/2, Windows, DOS, or other Btrieve-supported systems to be incorporated into voice and fax applications. FAR Voice 3.0 also exploits OS/2's multithreading capability. All aspects of voice and fax processing are supported. The software is IBM LAN Server and Novell NetWare certified, and is compatible with all other major network operating systems. The basic software with support for four ports is

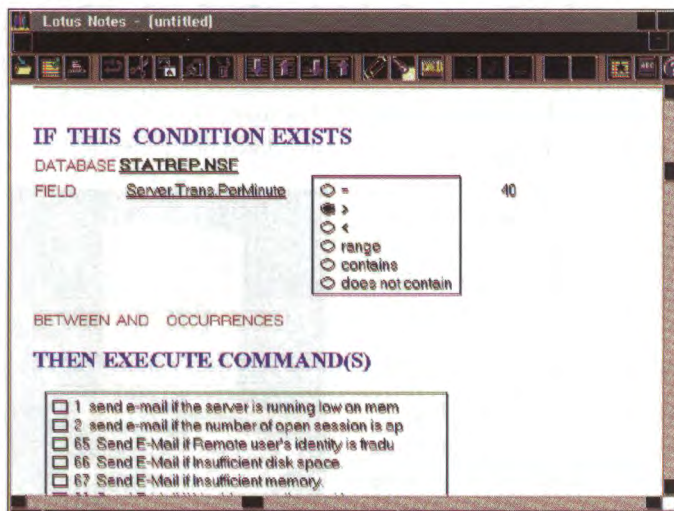
available for \$2,500; a number of application modules are available as well. FAR Systems, Inc., 7898 High Ridge Road, Fort Atkinson, WI 53538. (414) 563-2221, fax (414) 563-1865.

Notes management

CleverSoft is now shipping CleverWatch, an OS/2 based add-on product to help administrators and application developers manage Lotus Notes servers. CleverWatch is designed to lower the cost of Notes administration by adding devices that CleverSoft calls "triggers" to the Notes environment. These triggers detect component, application, and database problems and these notify administrators through alphanumeric paging or e-mail; they also can automatically correct these problems. CleverWatch sells for \$495 per server; volume discounts are available. CleverSoft Inc., 27 Gorham Road, Suite 1, Scarborough, ME 04074. (207) 883-3550.

Write rather than roll

Warp Speed Light Pens, Inc. has released Light Pen for Warp, a new fiber optic device. The Light Pen ships with device drivers that take advantage of Warp's latest mouse configurations. In addition to performing all mouse functions, including drag and drop and double click, the product has the ability to write, circle, and make handwritten marks directly on the display. The pen is compatible with all software that runs under OS/2. Cost: \$199. Warp Speed Light Pens, Inc. 1086 Mechem Drive, Ruidoso, NM 88345. (800) 874-4315, fax (505) 258-3911.



CleverWatch's "triggers" monitor Lotus Notes servers and detect component, application, and database problems, correcting them without human intervention.

News

Satellite software

IBM in November entered into a technical partnership with Hughes Network Systems that could drastically alter the way in which computer software is obtained. "We are working with Hughes to beam software via satellite, and to redefine delivery of software into the next century," says Walt Price, IBM vice president of Software Manufacturing Solutions. The goal of the partnership is to use Hughes' satellite technology to beam software to remote locations, such as a public kiosk in

a mall. "The idea," says IBM spokesman Rick Bause, "is that the consumer could walk into a mall, browse through a listing on a kiosk, and walk out with the software." For the moment, however, the plan is in the visionary stage, with pilot programs still in development.

Long-term plans center on a strategy that would target corporate customers and computer resellers and retailers.

Warp gains momentum

Separately, IBM also announced that it had reached an agreement with CD-ROM manu-

facturer Philips to develop device drivers that would enable Philips' Compact Disk Interactive (CD-I) system to run under OS/2.

Philips, based in the Netherlands, is working with IBM to develop a joint worldwide marketing plan that would, among other things, seek to bundle CD-I and Warp with an as yet undisclosed number of OEM manufacturers and dealers. "The drivers are still under development," says Claire Wilkins, an IBM spokeswoman in England, "but we're currently looking to ship by the end of Q1."

Still holding out

Corner Store President Paolo Pignatelli continues to resist selling OS/2 Warp, but denies that he has ceased selling OS/2 products altogether. Pignatelli acknowledges that the decision has had a negative impact. "It has hurt us," he says, noting that he has received a large volume of calls from concerned customers. For the moment, Pignatelli has no plans to carry the product, "although," he says, "when IBM releases the Full Pack of OS/2 sometime this year, I will reconsider my position." ♦

OS/2 Training Courses

IBM OS/2 v2.11

This 3 day course is critical for new users of the Operating System /2.
The course shows:

- The many features of OS/2
- Methods of installation
- Navigating through the OS/2 desktop
- Installing and maintaining the system and printing subsystems
- System maintenance
- Demystifying the CONFIG.SYS.

Available in the 1st Quarter of '95

- LAN Server 4.0
- OS/2 3.0
- Netware and IBM Co-existence

IBM OS/2 LAN Server LAN Administration Workshop 1

Learn how to manage your OS/2 LAN with this course.
This 3 day course will show:

- How to add users
- Add groups
- Install and share LAN resources
- Define public and private DOS and
- OS/2 applications
- Define and control access and permissions.

This course is essential to new OS/2 administrators and an effective eye opener to current OS/2 administrators.

Honeywell Allied Data Communications

Call Honeywell for your OS/2 and OS/2 LAN Server Needs

(404) 923-4866
(404) 923-0333 Fax

IBM OS/2 LAN Server LAN Administration Workshop 2

This 5 day course will help OS/2 administrators with the many features of OS/2 LAN Server.
Topics covered are:

- PEER to PEER
- Alert Services
- Replication of Account Databases and Critical Resources
- File Systems
- LAN Adapter Protocol Services.
- DOS LAN Requesters
- Virtual DOS Machines
- Applications considerations and installations
- Server Capacity Planning
- Performance Tuning OS/2 LAN Server
- Remote IPL,
- Fault Tolerance
- Installing OS/2 Products from OS/2 LAN Server.

Error Manager

Because some projects can't take a lifetime . . .



Error Manager is a runtime API debugger and production code monitor. EM finds elusive API errors and enables testers and production managers to monitor software in real user environments. EM works with fully optimized code and does not require symbol information of the debug kernel -- yet it will tell you which line in your source is causing the error!

Traditional tools such as debuggers are of little use when your software is out in the field. Reproducing a problem is frequently a time consuming and frustrating process. Automated testers can tell you that something is wrong, but they can't tell you what, and they can tell you where. We can!

Error Manager tracks the OS/2 Toolkit API functions. Errors can be ignored, logged to a file, pipe, or our PM viewer. Additionally, EM can notify your window handle or callback function, allowing even novice OS/2 programmers to implement a sophisticated, event-driven error handling strategy.

EM works with all 32-bit OS/2 C/C++ compilers.

Error Manager simplifies all phases of the development cycle. Whether you use the logs to evaluate the performance of your beta, implement event-driven error handling or simply use the provided PM Viewer as an additional debugging tool, you will gain tangible benefits the first day you use Error Manager!

And you won't be alone. Here's what some of our clients had to say:

"I found 15 problems in a program I thought was fine. I don't know whether to be happy or sad!"

"Finding bugs was never this easy! Error Manager paid for itself the first time we used it."

Soft & GUI

(800) SOFT-GUI

(718) 934-2133 FAX



(718) 769-8017

(GO SOFTGUI)

- * Error Manager is simple to use:
 - Include 1 header file
 - Link 1 DLL
 - Set 1 environment variable
- * Finds intermittent errors without the Debug Kernel.
- * Logs API errors and programmer messages to a file, pipe or our PM viewer.
- * Records the error number, description, location in your source and the number of consecutive occurrences.
- * Adds suspect functions to the log if the problem may have originated at a different call -- a unique feature!
- * Works with fully optimized code in realtime scenarios.
- * Supports both PM and fullscreen programs.
- * Includes a free distribution license for the runtime DLL.
- * Ideal for use during development, test and production cycles.

\$225

American Express, VISA, Mastercard. Overnight Service Available. 30 day Money-back guarantee.

Available through OS/2 EXPRESS

Circle #35

Managing OS/2 Programs and Sessions

BY CAREY GREGORY

Judging by the messages posted to the OS/2 developer support forums on CompuServe, there are a surprising number of developers who need to launch one program from within another. Questions range from "How do I start this DOS application from within my PM application?" to "I'm trying to pass command line parameters to this program and it doesn't seem to work."

For a programmer new to the OS/2 API, launching a program from within another can be a daunting task when all that's available is the toolkit documentation and no working examples. The complexities present in OS/2 that allow it to run DOS, Windows, and several types of native applications compound the developer's problems. While you might think that starting a program would be as effortless for the programmer as it is for the user, it isn't the case.

On the other hand, the task is reasonably manageable once you understand the two functions required, which particular function best suits your needs, and how you assemble the parameters for each one.

The keys to understanding the two OS/2 API functions that launch a program inside another one are the concepts of OS/2 sessions and program types. OS/2 recognizes two fundamental types of sessions: native OS/2 and DOS. Native sessions are the true OS/2 sessions in which native OS/2 applications execute. These are further subdivided into Presentation Manager, text-windowed, and full screen session types. DOS sessions are sessions in which DOS and Windows applications execute. These are also subdivided into text-windowed and full screen sessions. OS/2 does not allocate a separate session type to Windows because Windows applications are really just running in a shell on top of DOS.

Although the Workplace Shell manages this plethora of session types so well that the user need not understand the differences, the situation is more cumbersome for the developer. Fortunately, you need not memorize parameters for each session type and subtype. Rather, you must track which type of program the parent is calling, and which type of program gets called as a child.

The general rule is that if you want to launch a child program

of the same type as the parent using the same type of session, you can execute the program directly using the **DosExecPgm()** function. However, if you want to launch a child program that is of a different type than the parent, or if you want it to execute in a different type of session, you must create a new session using the **DosStartSession()** function.

Using DosExecPgm()

Just as executing a child program of the same type in a session of the same type is a far simpler task for OS/2 itself, **DosExecPgm()** is a far simpler function than **DosStartSession()**. Listing 1 shows an example of a native OS/2 child process being launched using **DosExecPgm()**.

LISTING 1

```
#define INCL_DOSPROCESS
#include <os2.h>

char    szFailName[CCHMAXPATH];
char    *pszCmdLine =
        "child.exe\0arg1\0arg2\0arg3\0";
RESULTCODES    ResultCode;

DosExecPgm(szFailName,           //Name of failing module
           sizeof(szFailName), //Length of failure name
           pszCmdLine,          //Command line buffer
           0,                   //Environment buffer
           &ResultCode,         //Child program's return code
           "child.exe");        //Name of child program name
```

The first argument to **DosExecPgm()** in Listing 1, **szFailName**, is a character array used for problem determination. If the call fails, the name of the object contributing to the failure will be placed in **szFailName**. Typically, this would be the name of a required DLL that can't be found. The second argument is simply the size of the **szFailName** argument. The third argument is a flag indicating how the child program will execute in relation to the parent. This is a crucially important parameter, and has major effects on the behavior of the **DosExecPgm()** function as well as the child process itself.

The third parameter allows too many options to list here

Build New Applications on Lotus Notes and OS/2 Integrate Data Between Notes and Enterprise Databases

Notrix:

- Builds event-driven Notes applications using the Notrix Event Manager
- Uses REXX as its 4GL scripting language
- Reduces development time by up to 80%
- Works with all Notes Desktop Clients

Notrix Composer:

- Cost-effective bidirectional data access from Lotus Notes to single or multiple external data sources
- Requires no programming
- Uses a standard Notes form
- Includes Notrix

Call for information and a **free 30-day Test Drive**. After your evaluation, we'll send you the book *Lotus Notes V3.0 REVEALED!*

Notrix Application Developer License \$199
Notrix Server License \$1,495
Notrix Composer \$4,995

800-283-0800 for US, Canada inquiries
617-267-6700 for international inquiries



**PERCUSSION
SOFTWARE**

222 Berkeley Street, Suite 1620, Boston, MA 02116

Available through OS/2 EXPRESS

Circle #262

RDC Rexx Diagnostic Commander

REXX Debugging Made EASY!

RDC allows software developers, administrators, and ALL OS/2 professionals to quickly and efficiently code and test REXX command files in a fully interactive environment.

- | | |
|----------------------------|-------------------------|
| ♣ Full Screen Display | ♣ Single Step Review |
| ♣ Breakpoints | ♣ Dynamic Watch Windows |
| ♣ Variable Display Service | ♣ Logic Alteration |
| ♣ Variable Alteration | ♣ Deferred Debug Option |

And RDC supports multi-platforms

HA Suitable
Alternatives

4655 Old Ironsides Dr., Suite 220
Santa Clara, CA 95054

Call (408) 727-3142, or FAX (408) 727-3170

Available through OS/2 EXPRESS

Circle # 204

CODE CACHE

(including options intended solely for the development of debuggers), but the typical choices include:

EXEC_SYNC: The child process executes synchronously with respect to the parent. In synchronous operation, the call to **DosExecPgm()** will not return until the child process completes. The termination code and return code of the child process are available in the **ResultCode** argument on return.

EXEC_ASYNC: The child process executes asynchronously with the parent. The call to **DosExecPgm()** will return immediately without waiting for the child process to complete. The child process's termination and return codes are not available. However, the child's Process ID (PID) is stored in the first element of the **ResultCode** structure on return from **DosExecPgm()**.

EXEC_ASYNCRESULT: This option is identical to **EXEC_ASYNC** except that instead of discarding the child process's termination and return codes, they are saved for later recall via the **DosWaitChild()** function. As with **EXEC_ASYNC**, the PID is stored in the first element of the **ResultCode** structure on return from the **DosExecPgm()** call.

EXEC_BACKGROUND: This option is similar to **EXEC_ASYNC** except that the child process detaches from the parent process session. This means that the child is unaffected by termination of the parent process, and that it runs in the background with no standard input or output device. It should not attempt to read from the keyboard, write to the console, or access the mouse. There is essentially no relationship between parent and child process when this option is used. This option would be useful, for example, for starting network daemons.

The fourth argument to **DosExecPgm()** is a buffer containing the command line for the child process. If no command line is necessary, a null pointer can be passed. However, if one is supplied, it is structured as a series of null terminated strings, each representing a separate parameter on the command line. The entire string is terminated by two null bytes. Since C/C++ compilers automatically null-terminate quoted strings, it is only necessary to add one additional null to the end of the string, as shown in the example. Note also that by convention the first parameter is the program name. When the child program executes, these parameters will be placed in **argv[0]**, **argv[1]**, ... **argv[n]** just as if the program had been executed from the command line.

The fifth argument is also optional and contains a new set of environment variables for the child process. If this argument is a null pointer, the child process inherits the parent process's environment. Otherwise, it is constructed similarly to the command line argument with each environment variable represented as a

CODE CACHE

string in the form "variable=value". Again, each string is null-terminated, and the entire buffer is terminated by two null bytes. Although potentially useful for custom path settings and related settings, it is usually much easier to allow the child process to inherit the parent's environment by passing a null pointer.

The sixth argument is the address of a **RESULTCODES** structure. This structure looks like this:

```
typedef struct _RESULTCODES {  
    ULONG    codeTerminate;  
    ULONG    codeResult;  
} RESULTCODES;
```

The **codeTerminate** element serves a dual purpose. When run asynchronously, the child's PID will be stored in this element. When run synchronously, the child's termination code will be stored here. OS/2 supplies the code that specifies how the process terminated (e.g., normal exit, exception, or trap). The **codeResult** element is used to return the value returned by the child's call to **DosExit()**. These values are not directly accessible for asynchronous calls. Instead, an asynchronous process must use the **EXEC_ASYNCRESULT** option and **DosWaitChild()**.

The last argument to **DosExecPgm()** is simply the name of the program to execute. The file extension is required, but the normal search path rules apply. If the program is not in the path or current directory, the parent must specify a fully qualified name.

Using DosStartSession()

When using a native OS/2 application to start a DOS or Windows program (or another native OS/2 program in a different type of session), the **DosExecPgm()** function will not work. Instead, you must use the **DosStartSession()** function to create an entirely new session.

First, the good news: **DosStartSession()** has far fewer parameters than **DosExecPgm()**. The bad news is that its first parameter has a fairly complex structure, resulting in an aggregate number of parameters far greater than **DosExecPgm()**. Listing 2 shows an example of a full screen DOS application launched through **DosStartSession()**.

LISTING 2

```
#define INCL_DOSSESMGR  
#include <os2.h>  
#include <stdio.h>  
  
STARTDATA    StartData;  
ULONG        SessionID;  
PID          pid;  
char         szFailName[CCHMAXPATH];
```

ZipSTREAM™

The Next Generation
Disk Compression Software
for OS/2

Introducing ZipStream

ZipStream is an exciting new concept in automatic file compression that harnesses the power and features of OS/2.

ZipStream is an OS/2 Installable File System (IFS) that mirrors access to existing OS/2 File Systems, and simultaneously provides automatic transparent file compression and decompression.

Features

- ✓ Supports HPFS, FAT, Diskettes, and LAN File Systems
- ✓ Outstanding Performance featuring Background Compression
- ✓ Ultra High Compression Ratios and WPS Compatible
- ✓ No Container Files and No Reformatting Required
- ✓ Native OS/2 32 bit Application

Carbon Based Software

PO Box 912 Runaway Bay Qld 4216 Australia
Ph +61 75 37 1949 Fax +61 75 29 1544
CIS 100351,2052 Internet 100351.2052@Compuserve.com

ZipStream is a trademark of Carbon Based Software. OS/2 is a trademark of International Business Machines. © 1994 Carbon Based Software

Available through OS/2 EXPRESS

Circle #277

CONSTRUCTION
ZONE

BEGINS
(with)

ONLY
\$99

IPF BUILDER™

- Quickly create INF and HLP files
- Compile* and view as you develop
- Link to headings and footnotes
- Create your own custom menus
- Point and click access to tags
- Tree view of the IPF structure
- And much more...
- Certified 'Ready!' for OS/2*

Eliminate the bumpy road in IPF development

* Requires IBM's IPFC compiler

For further information and quantity pricing call:



Custom Design Software

3848 Warren Avenue
Royston, BC, Canada
V0R 2V0
Phone: (604) 334-2263
Fax: (604) 334-3125

Available through OS/2 EXPRESS

Circle #258

January 1995 OS2 Professional 61

CODE CACHE

```
memset(&StartData, 0, sizeof(StartData));

StartData.Length = sizeof(STARTDATA);
StartData.Related = SSF_RELATED_INDEPENDENT;
StartData.FgBg = SSF_FGBG_FORE;
StartData.TraceOpt = SSF_TRACEOPT_NONE;
StartData.PgmTitle = "My DOS Program";
StartData.PgmName = "dospgm.exe";
StartData.PgmInputs = "arg1 arg2 arg3";
StartData.InheritOpt = SSF_INHERTOPT_SHELL;
StartData.SessionType = SSF_TYPE_VDM;
StartData.ObjectBuffer = szFailName;
StartData.ObjectBuffLen = sizeof(szFailName);

DosStartSession(&StartData, &SessionID, &pid);
```

As you can see, **DosStartSession()** has only three arguments, but the first contains a considerable amount of information. The **SessionID** and **PID** arguments are where OS/2 returns the session ID and the PID of the program started within the session (if the session is related, as discussed below), but the most interesting parameters reside within the **StartData** argument. Notice that all bytes within **StartData** are initialized to 0 prior to the call. There are several fields within the structure that remain unused

in this particular example or have been reserved by IBM. In either case, the unused data should be set to 0, and Listing 2 demonstrates a simple and effective way to ensure proper initialization.

Many OS/2 structures contain a length field that specifies the size of the structure. The **StartData** structure is one such structure that makes effective use of the length field. For demonstration purposes, we will use the maximum size of the structure, thus permitting access to every function provided through **DosStartSession()**. However, specific smaller sizes may be useful for particular tasks such as installation programs (see the OS/2 Toolkit documentation for a description of these options). The following paragraphs highlight the most interesting elements in the **StartData** structure. For clarity I have used the terms parent and child to refer to the calling program and called program in the following descriptions.

Related: This field specifies whether the parent and child sessions are related. A related session allows the parent session to control the child session through the **DosSelectSession()**, **DosStopSession()**, and **DosSetSession()** functions. A related

OS/2 Visual Programming with GpfRexx™

Using expertise gained from years of creating the best Visual Programming Tools for C programmers, Gpf Systems has created a visual programming tool for everyone. By combining the easy to use but powerful WYSIWYG Interface Builder of Gpf with the easy to use but powerful REXX language that comes with every OS/2 system, now you can create your own PM applications, even if you've never used Gpf or REXX before. Point, click, drag, and drop to build striking PM applications that take advantage of the advanced features of OS/2.

Visual Programming

Visual GUI programming for REXX: the most natural way to program a Graphic User Interface.

Simple but Powerful

Simple to use but powerful WYSIWYG Interface Builder which can create basic or advanced applications without detailed system level knowledge.

Getting the Most from OS/2

Take advantage of advanced OS/2 features: Multi-Tasking, SQL DataBase, Multi-Media, Multi-Media Controls, Communications (APPC, CPI-C, EHLLAPI)



FEATURES

- Point and click programming
- Multi-thread programming
- Nested menus to any level
- Fully integrated true WYSIWYG interface builder
- PM programming without system knowledge
- Support for CUA '91 controls
- Supports Multi-Media at design and run time
- Supports user designed custom controls
- Control fonts and colors for windows and controls
- Easy inclusion of Bitmaps and graphics
- Context sensitive help for windows and controls
- Point and click access to DB2/2 SQL databases - and REXX supported Embedded SQL access to DB2/2 APIs
- Multi-thread source level debugging
- Royalty FREE - Configurable run-time



Order GpfRexx today for Just \$247.50
60 days money back guarantee
For information on other development products call,
Phone: (800) 831-0017 or Fax: (203) 873-3302
30 Falls Road, Moodus, CT 06469



The Path To A Good GUI Isn't Always Clear

Navigate the maze with the NEW Gpf 2.1 Professional Developers ToolKit

Promises are cheap, GUI development tools aren't. Gpf 2.1 demo software is FREE. Try Gpf before you buy any tool and you'll agree that Gpf 2.1 DELIVERS.

With this powerful point and click visual programming environment you can create a CUA '91 Graphical User Interface for OS/2 Presentation Manager® or MS DOS/Windows® in as little as 10% of the time required to hand code the same design.

What You See Is What You Get programming reduces weeks of coding to hours. Quickly prototype and test your interface, then let Gpf write the code. Gpf generates error free, structured Object Oriented C or C++ source, complete with embedded SQL for OS/2 DataBase. Custom Help and Logic are added to controls as they are drawn to create full Client/Server or Stand-alone applications!

Gpf is hosted on OS/2 2.x and generates native code for OS/2 2.x, OS/2 1.3.x and MS Windows 3.0 or 3.1 Of course this means maximum performance with no run time module and no royalties! * GUI Programming Facility

Seeing Gpf is believing!

- Design 32 or 16 bit GUIs for IBM OS/2® or Microsoft Windows®
- Be creative, WYSIWYG design environment
- Full CUA '91 Control set, 32 or 16 bit
- Full application and/or DLL generation
- Reusable Objects
- Automatic documentation
- Minimal time to application delivery



SYSTEMS, INC.

Try us, FREE Demo Software Available
Order Gpf Pro ToolKit today for just \$1440.00
Separately: Gpf 2.1 for \$1295.00 & GpfTools for \$195.00
Or, try: Gpf 2.0 Single Platform, now available for just \$495.00
Call Gpf Systems Inc. at: (800) 831-0017

Phone (203) 873-3300 • fax (203) 873-3302 30 Falls Road, Moodus, CT 06469

CODE CACHE

parent may also specify a queue through which to notify the child upon the parent's termination.

FgBg: Controls whether the session will be started in the foreground or background. Note, however, that **DosStartSession()** will only start a session in the foreground if the calling program (or another descendant session) is the current foreground session. If the parent is running in the background, **DosStartSession()** ignores the request, starts the child session in the background, and returns **ERROR_SMG_START_IN_BACKGROUND**. This behavior is consistent with CUA guidelines, which hold that it's downright rude to commandeer the foreground focus away from the user (a bad habit present in many of today's applications).

TraceOpt: Unless you're writing very specialized code such as a debugger, always set this field to **SSF_TRACEOPT_NONE**.

PgmTitle: This is a pointer to a string containing the program title. If set to zero, the program name will be used instead.

PgmName: This is a pointer to a string containing the fully

qualified file name of the child program. You can, if necessary, supply a command processor name such as **CMD.EXE**, and then specify the **/C** or **/K** option along with the name of a program to execute in the **PgmInputs** field (required only if the child program depends on functions provided through the command processor).

PgmInputs: This is a pointer to a string containing the command line text to be passed to the program. If no command line arguments are required, this field can be null.

InheritOpt: Specifying **SSF_INHERITOPT_SHELL** for this field will provide the program in the new session a fresh environment from the shell, while **SSF_INHERITOPT_SHELL** will cause the child to inherit the parent's environment and open file handles.

SessionType: This field specifies the type of session to be created. The available options are full screen, windowed, or PM for OS/2 sessions, and full screen or windowed for DOS sessions.

ObjectBuffer and **ObjectBuffLen:** These fields serve the

continued on page 68

Access cc:Mail from Rexx

RexxVIM: The VIM Toolkit for Rexx allows Rexx applications to access cc:Mail, Lotus Notes, or any VIM E-Mail system, for message creation, addressbook functions, in-box automation, and many other services. **RexxVIM** allows existing Rexx applications, such as network monitoring, to be easily extended to utilize the power of the e-mail system, all without cumbersome C/C++ programming. **Order Now ONLY \$295!**

Build an EXE from Rexx

RexxTools for OS/2 provides two powerful tools for Rexx development. **RexxPack** compresses a Rexx command file by removing extra spaces, line control, and comments. **RexxComp** generates an OS/2 exe file from a Rexx command file. This tool allows developers to ship Rexx programs with the source code secure from changes. **No runtime DLL and ONLY \$149!**

Innovative Business Technologies, Inc.

7137 Shady Nelms Dr., Suite 204
Columbus, OH 43017

(614) 791-9055 or CIS: 74563,1530
Major credit cards accepted

Available through OS/2 EXPRESS

Circle #276

The easy to use 32 bit OS/2 PM IPF Language Editor

IPF Editor

The IPF Editor is the first 32-bit OS/2 2.x Information Presentation Facility Editor. It provides an easy to use Presentation Manager environment for creating on-line documents and on-line context sensitive help for both existing and new OS/2 applications.



for OS/2

Some Available Features:

- Designed for ease of use both by programmers and non-programmers
- Generate source files to automatically add context sensitive help to applications
- Import wordprocessing files, including WordPerfect, to create on-line documents quickly and accurately
- Preview IPF file output *without* compiling
- Multiple-language support
- Create all hypertext links automatically
- Easy creation of hypergraphic links
- Add sound to help and on-line documents with optional voice support module
- Create IPF tables from 1-2-3 and Excel spreadsheets
- Modify on-line document screen size and position
- Multi-Document Footnote support

SRP \$150

Perez Computing Services
4725 Monte Vista Place
Mount Vernon, WA 98273
(206) 428-5025

IPF Editor and PCS are trademarks of Perez Computing Services. All company and product names are trademarks of their respective owners.

Orders

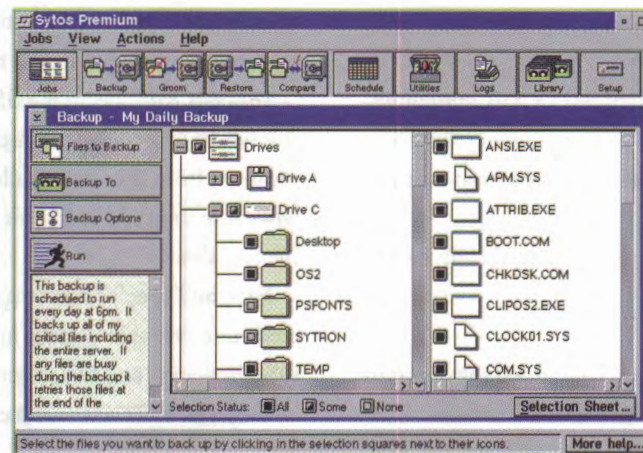
1-800-IPF-7622
BBS: 206-424-7292

Available through OS/2 EXPRESS

Circle #261

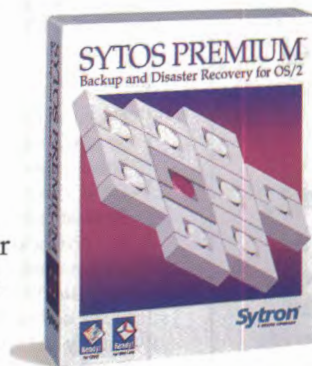
January 1995 OS/2 Professional 63

WE'VE JUST CHANGED THE FACE OF OS/2 BACKUP.



The standard in OS/2® backup just got a facelift. Introducing Sytos Premium™ Backup and Disaster Recovery for OS/2 from Sytron. It's the same reliable Sytos Plus you know and love, and a lot more.

For starters, we gave it a bold new look. Featuring easier access to its powerful features. We added emergency disaster recovery, so you can recover your entire system if need be. Then we bolted on a turbo-charger, so you can now recover OS/2 from the last full backup in less than 10 minutes. Plus, there's a graphical, multiple



event scheduler so you can schedule automated jobs to run whenever you like. And the broadest support for industry standard QIC and DAT tape drives. There's even optional built-in autoloader support. The result? Simply the fastest, easiest to use and most flexible backup and disaster recovery solution for LAN Server networks.

So contact your favorite software dealer, or call **1-800-877-0016** for more information. Because OS/2 backup and recovery has never looked this good.



Sytron®

EGGHEAD
800-EGGHEAD

INDELIBLE BLUE
800-776-8284

PC CONNECTION
800-800-0005

IBM DIRECT
800-IBM-CALL
(Media SYTR01)

© 1994, Sytron Corporation, a subsidiary of REXON, Inc. Sytron is a registered trademark and Sytos Premium is a trademark of Sytron Corporation. IBM and OS/2 are registered trademarks of International Business Machines Corporation. All other product names and logos are trademarks of their respective owners.



THE IS NOTEBOOK

Tips and Techniques for the OS/2 Professional

Warning: Columnists Prognosticating

BY GORDON SCOTT AND GENE STEELE

It's frightening what the start of a new year does to columnists. Normally reserved, measured, careful to state things clearly and precisely (the knowledge that your words will survive for years as ink on paper has an amazing effect!), we grow wild and visionary as the holidays and change of the calendar come upon us. So watch out!

In the almost two years of this column we have built a trail of ideas, hints, tricks, and procedures aimed at increasing your and your users' productivity. We've been productive ourselves. So while other columnists get the prognostication flu about this time of year, the IS Notebook holds only one prediction for 1995: many of the ideas for using Warp that you'll find most useful in the new year have already been mentioned in this column.

Here are a few more that are appropriate right now, since current trends in personal computing will intensify the need for solutions like these in 1995.

Place the SWAPPER.DAT file on the partition with the most free space and keep at least 10 megabytes free on your hard drive.

- Open your CONFIG.SYS file in an editor.
- Make a directory reserved for the swap file (e.g., MD {d}:SWAP where {d} is the drive letter of the hard drive partition that has the most available space).
- Edit the SWAPPATH variable to read: SWAPPATH={d}:swap 10240 20480.
- Make sure you have at least 10mb free

on the drive where the new swap path is located. If you don't, move or delete files as needed.

- If you changed the location of the swap path, you can erase SWAPPER.DAT from the original directory after the next reboot.

Tailoring the swap parameters to your system configuration will give you needed swap space for use when RAM gets tight. As a result, your system won't slow down as much to wait for your hard drive. Both Windows and OS/2 use a memory swap file, but only OS/2 gives you control over its location.

When memory gets tight, OS/2 will often swap data from fast RAM to your relatively slow hard disk. The first numeric parameter in the SWAPPATH command (10240 in the example) specifies the warning level when disk space gets low. OS/2 will pop up a warning window when only 10mb remain. If you're short on disk space, you can set it lower (the default is a meager 2mb). However, if you set the warning level too low, then by the time you see the error, you may very well crash the operating system without a chance to recover.

If you set the level high enough, OS/2 will warn you soon enough that you can delete old files or reduce the number of active programs.

The second SWAPPATH parameter sets the initial size of the SWAPPER.DAT file. The more memory you have, the lower that amount can be. A reasonable size for a 16mb system is 20mb. Adjust the size down 1mb for each additional megabyte of RAM above 16 (or adjust up for less RAM).

On balance, it's better to overestimate the swap file size: OS/2 can then attempt to allocate the entire swap file in contiguous disk space, which will improve performance when memory gets tight.

Rather than allocating disk space, you may also consider increasing your RAM to 16mb or more. You will immediately notice the difference more RAM makes when using Windows programs.

We would hasten to add that despite common perceptions, large swap files are not necessarily bad. A large but fairly inactive swap file can indicate that the operating system is allocating memory efficiently (clearing lots of deadwood out of the precious RAM resources). On the other hand, a very active swap file (small or large) degrades system performance.

Run DOS from a DOS disk image.

First, use these steps to create a DOS disk image:

- Place a DOS disk in Drive A:. (This can be a from-the-box DOS disk, or a floppy formatted with the /s option switch—in the latter case, make sure it has a copy of COMMAND.COM.)
- Open an OS/2 window.
- At the command prompt enter: VMDISK A: C:\DOS\DOS62.IMG .

Note: The path and file name of the target DOS image file can be any valid path name, so you can put the image anywhere you'd like. You can also create multiple image files with differing

THE IS NOTEBOOK

versions of DOS to meet your specific needs. For more information about the process of creating an image file, type HELP VMDISK in an OS/2 window.

Next, use these steps to create a program object that uses this image file:

- Open the Command Prompts folder (located in the OS/2 System folder).
- Select the DOS Window object.
- Hold down the CTRL key while dragging the DOS Window object to the desktop. This creates a copy of the DOS window object.
- Open the settings notebook of the new DOS window object.
- Select the Session tab.
- Select the DOS Settings pushbutton.
- In the list of DOS Settings, locate and select the DOS_STARTUP_DRIVE entry.
- In the entry field provided, enter the path and filename of the image file.

Using the previous example, the entry would be C:\DOS\DOS62.IMG.

No matter which version of OS/2 you use, there may come a time when you need a version of real DOS to run under OS/2. A handful of programs, for one reason or another, hook themselves into features specific to particular versions of DOS. When you run such a program, OS/2's DOS emulation window won't fit the characteristics the application is looking for. Starting DOS from drive A or from an image file allows you to accommodate these programs and still run under OS/2.

When you start DOS from an image file, OS/2 loads that image file into memory. At this point you have a virtual DOS A drive that resides in RAM, significantly improving performance over booting from a floppy.

There is, however, one drawback to

running DOS from a disk image: you can't write to the OS/2 file system (HPFS or FAT), which means you won't be able to save anything to your hard disk. Two OS/2 commands are designed to help you remedy this problem. For more information about them, enter HELP FSACCESS or HELP FSFILTER at an OS/2 command prompt.

Create a Boot Manager partition on your hard drive.

- If you need to delete a partition to create room for Boot Manager, back up the partition you plan to delete.
- Boot from the OS/2 installation diskette.
- Insert diskette 1 when prompted.
- When the "Welcome to OS/2" screen appears, press Enter to continue.



OS/2™ is a great operating system - except when it comes to delivering a consistent desktop time after time. It's so easy to drag and drop system files and utilities into the shredder. Anyone can do it. Now that's an administrative nightmare.

Unless you have the **Desktop Observatory™** from Pinnacle Technology. The Desktop Observatory silently takes control of your user desktops.

Drag and Stop.

Lock & Load...Over a LAN!

Drag the OS/2 System folder into the shredder? No problem. The Desktop Observatory can dynamically rebuild their desktop from a small configuration file you control, and everything is restored. Store the desktop configurations on your LAN, and you can instantly update hundreds of desktops from a central location.

Security & Auditing

But there is even more to the Desktop Observatory. Apply restriction settings to objects so that they cannot be moved, copied, deleted, renamed, or even seen. Password protect folders and programs, and restrict access to files, folders and directories.

You can even start REXX or C utilities when folders or programs are opened or closed - great for backups, statistics collection, audit control, and copying files to or from a server.

Now you've found the perfect solution for OS/2 security, management and control - the **Desktop Observatory for OS/2.**

1-800-525-1650



Desktop Observatory is a trademark of Pinnacle Technology. OS/2 is a trademark of IBM Corporation. ©1994 Pinnacle Technology • P.O. Box 128 • Kirklin, IN 46050 • 317.279.5157

Available through OS/2 EXPRESS

Circle #88

THE IS NOTEBOOK

- When "Installation Drive Selection" appears, Select option #2: **Specify a different drive or partition.**
- If the entire disk has already been formatted into partitions, delete the backed-up partition, and reallocate it as a smaller partition. (You must keep 1mb free for the Boot Manager partition.)
- Highlight the unpartitioned area on the disk where you want to add Boot Manager and then press Enter.
- Select **Install Boot Manager** to create the Boot Manager partition.
- Select **Create at Start of Free Space** if you are installing on an existing system or select **Create at End of Free Space** if you are installing on a newly formatted partition.
- From the Options Menu, select **Add to Boot Manager menu.**
- Enter a name for each operating sys-

tem you want available when booting up your system.

- Restore backed-up data to any partitions you deleted and reallocated.

If you are running any operating system in addition to OS/2, BootManager is a very effective way to maintain control of your system's setup. Just after startup BootManager will present a character based menu of your OS choices. This menu will list all of the operating systems you added to the menu from the Boot Manager. Boot Manager is very useful when you need to do more than simply switch from OS/2 to a DOS session.

Diminish communication problems caused by too many interrupts.

- Edit your CONFIG.SYS file to add a

fourth parameter, **I**, to the COM.SYS Device statement. For example:
DEVICE=C:\OS2\COM.SYS (1,3F8,4,I)
(2,2F8,3,I)

Having a smooth running communications program is critical to exploring the ever-expanding world of the Internet. Unfortunately, OS/2 slows to a crawl when it encounters too many consecutive interrupts running a DOS or Windows program. This fourth "I" parameter in each set tells OS/2 to ignore indications that individual processes are overloading the interrupt channel.

Position the LaunchPad vertically at the right edge the screen.

- Open the Settings Notebook for the

The Award Winning, Multi-Function Enhancements for OS/2®

NEW Version 1.51 with Warp support! DeskMan/2™

DeskMan/2™ Workplace Shell™ Manager

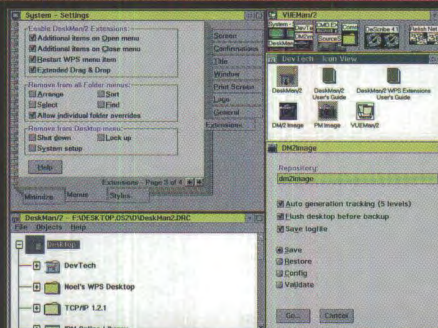
Efficiently Manage Your Workplace Shell!

- Easy to use drag & drop interface
- Complete command line interface + REXX & CID support
- Manage standardized or personalized desktops, customizing access to features
- Selectively save and recreate objects; even transport them between desktops, computers & versions of OS/2
- Recover from or prevent accidental changes to your desktop
- Much more - total management of the Workplace Shell

VUEMan/2™ Virtual Desktop Manager

Increase Your Productivity!

- Makes multitasking easy; use and organize many concurrent activities with an easy to use drag & drop, point & click user interface
- Switch effortlessly between as many as 81 "virtual desktops" - like having 81 monitors that fit right on your desk!
- Drag and drop objects from WPS to virtual desktops, and between virtual desktops
- "Layouts" record window position and size for automatic repositioning and re-sizing at any future time
- Password protection for windows



**All this functionality & much more
Four Great Solutions - One Low Price!**
 "DeskMan/2 dramatically improves the ability of corporations and users to get the most out of OS/2. DeskMan/2 helps administrators restrict and control what users are doing and provides robust backup/restore features and seamlessly enhances the features of the WPS."
 Dr. Mike Kogan: Lead Architect of OS/2 2.0
 Author: The Design of OS/2



DM2Image™ Configuration Snapshot Facility

Saves Your Working Environment!

- Save or restore an unlimited number of complete system configurations (including active or inactive WPS desktops)
- Terrific for disaster recovery; training & demo machines; other uses
- Extensible rules let you customize configuration definitions
- Configuration snapshots are compressed for maximum efficiency
- Protects WPS desktop, config.sys, startup.cmd, .INI files, autoexec.bat, WIN-OS/2 desktop & system config. data

DeskMan/2 Extensions Workplace Shell Extensions

Configure the Workplace Shell to Work Your Way!

- Modify and enhance the runtime behavior of the Workplace Shell
- Enjoy drag & drop without using special keys to shadow or copy
- Control, selectively or globally, all WPS defined object styles, menu items and capabilities - the ability to Arrange, Sort, Delete, Rename, Settings, Lockup, Shutdown, etc. (even object visibility!) is completely definable
- Corporate Edition available with password protection for objects, audit trailing for WPS activities, and other custom enhancements

Copyright 1994 Development Technologies, Inc. All rights reserved. DeskMan, DeskMan/2, VUEMan, VUEMan/2 and DM2Image are trademarks of Development Technologies, Inc. CompuServe is a registered trademark of CompuServe, Inc. Workplace Shell is a trademark of International Business Machines Corporation. IBM, OS/2 and TalkLink are registered trademarks of International Business Machines Corporation.

DevTech

Development Technologies, Inc.
 Software Development & Technology Transfer
 308 Springwood Road, Forest Acres, SC 29206-2113
 Voice: (803) 790-9230 Fax: (803) 738-0218

Available through OS/2 EXPRESS

Circle #234
 January 1995 OS/2 Professional 67

THE IS NOTEBOOK

launchpad (you can right click on the Launchpad's background to pop up its menu).

- Select the **Display vertical** checkbox.
- Drag the LaunchPad to the right side of the screen (don't worry about the drawers—although the handles point to the right, they will open to the left).

Since maximized windows align with the left edge of the screen, the right side of the desktop is clear more often than the left side. Also, OS/2 can automatically line up the icons on the left edge of a folder, but not the right edge. Placing the LaunchPad to the right provides a way for you to position icons on that side of your desktop. This will also allow you to keep the LaunchPad close at hand without having it float on top of all the other windows. (Thanks to Kenneth P. who suggested this LaunchPad tip via CompuServe.) ♦

Gordon Scott works for IBM's Electronic Information Publishing group; he can be reached via the Internet at gscott@vnet.ibm.com. Gene Steele is a certified OS/2 engineer and talented OS/2 evangelist reachable at steele@netcom.com.

CODE CACHE

continued from page 63

same purpose as their counterparts in the **DosExecPgm()** function. If the program fails to load, the name of the object contributing to the failure will be placed in the buffer pointed to by **ObjectBuffer**.

The parameters outlined above are but a few of the many additional fields contained in the **STARTDATA** structure. The breadth of functionality offered through this interface provides the programmer with a great deal of flexibility and power for creating new sessions and running diverse types of programs. By mastering these techniques, you can write programs that take full advantage of OS/2's integrating platform. I recommend that you start with these simple examples and begin discovering new frontiers of your own. ♦

Carey Gregory is the president of Gateway Technologies Corporation of Canton, Connecticut, a consulting and software development firm specializing in OS/2, Win32 (and Unix on alternate Tuesdays). He can be reached via the Internet at careyg@bix.com or on CompuServe at 71034,2205.



Oberon Software

Oberon Software

1405 East Main St.
Mankato, MN 56001

Phone 507-388-7001
Fax 507-388-7568

Orders only, phone 1-800-242-4775

Circle #34

 AVAILABLE THROUGH
EXPRESS

*The Absolute Solution to OS/2
Telecommunications!*

TE/2

Oberon Terminal Emulator/2

- ✓ 32-bit subsystem for OS/2 2.1
- ✓ Smooth, efficient background operation
- ✓ X,Y,Zmodem, CIS™ B-Plus file transfers
- ✓ ANSI, VT100, 3100 terminal emulations
- ✓ Written specifically for OS/2
- ✓ Built-in script language and/or use REXX scripting
- ✓ New! Automatic script generation
- ✓ New! Multimedia extensions
- ✓ Free support via Oberon BBS (507-388-1154)



BOOKSTAX

WRITING OS/2 REXX PROGRAMS

by Ronny Richardson, IBM McGraw-Hill, \$39.95, 390 pages

REVIEWED BY ALAN JAY WEINER

Inside your computer sits an assistant, patiently waiting to handle repetitive tasks and quickly provide answers to your problems. This assistant is called REXX.

Provided with every OS/2 system, REXX is an easy to learn yet powerful programming language. In its simplest form, a REXX program is little more than a batch file—a series of commands performed in the sequence specified. Often this is simply a list of other programs to be run one after another. As a complete programming language, however, REXX can be quite complex. (Several companies offer visual versions of REXX; these provide an easier environment for creating Presentation Manager-based programs.)

But how do you learn to program REXX? OS/2 doesn't come with any printed documentation for REXX; it's all provided on-line. You could sit down and simply begin, consulting the help system for every question, learning slowly, step by step. You'd learn the language, but it would be slow and painful.

It's far better to read enough to create a foundation of knowledge on which to build. I like having on-line documentation for reference while I'm sitting at the computer. When there's a lot to read, though, make it a book, please.

Writing OS/2 REXX Programs provides a good introduction to programming REXX on OS/2 systems. Ronny Richardson leads you from installing REXX (for those who neglected to do so when first installing OS/2), through an overview of the language, into detailed use of REXX commands and functions. Along the way many descriptions and short examples show how the commands are used.

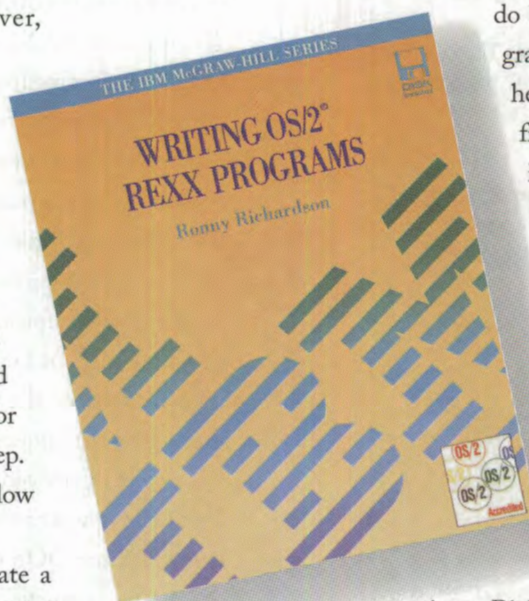
Intended for REXX novices, the book begins with Richardson's introduction to the OS/2 editor and tools. The early chapters describing REXX statements are easy reading, and provide sufficient information to begin writing REXX programs.

It's not for rank beginners, though; Richardson assumes the reader has an understanding of programming concepts and how to use OS/2. If you're not familiar with loops, variables, and conditional expressions, you'd do better to read a beginner's book on programming first. Anyone who passed his or her high school course in BASIC will do fine with this book, and will be writing simple REXX programs by the end of chapter two.

After a few more chapters, however, there are questions that will remain unanswered; the book is not complete. I occasionally found myself referring to the on-line documentation for further clarification. The commands `NUMERIC FUZZ` and `NUMERIC DIGITS` tell REXX how to handle arithmetic operations.

Richardson's descriptions of these commands left me quite confused. In fairness, the on-line help isn't much better. To be honest, I'm still confused about `FUZZ`.

If you wanted to deal with amounts up to a million dollars, you might say `NUMERIC DIGITS 9`. This tells REXX to remember all the digits of numbers up to 9,999,999.99 (or 999,999,999; `NUMERIC DIGITS` only says how many digits, not where the decimal point is). `NUMERIC FUZZ` says how closely numbers must match when they're compared. Richardson says, "If the precision is set to nine digits and the fuzz value is set to one, then logical comparisons are made as though the setting was 9-1, or



You Write Informative Copy, Packed With Useful Tips And Real-World Examples, And What Happens To Your Book?

Client/Server Programming with OS/2 2.1, Third Edition

by Robert Orfali and Dan Harkey
(Van Nostrand Reinhold)

Order number 150

MSR: \$39.95

CLEARANCE PRICE: \$27.50

Dvorak's Guide to OS/2, Version 2.1

by John C. Dvorak, David B. Whittle, and Martin McElroy
(Random House)

Order number 173

MSR: \$45.00

CLEARANCE PRICE: \$27.50

GUI-OOUI War: Windows vs. OS/2: The Designer's Guide to Human-Computer Interfaces

by Theo S. Mandel
(Van Nostrand Reinhold)

Order number 149

MSR: \$29.95

CLEARANCE PRICE: \$19.95

The OS/2 2.1 Corporate Programmer's Handbook

by Nora Scholin, Martin Sullivan, and Robin Scragg
(Van Nostrand Reinhold)

Order number 147

MSR: \$39.95

CLEARANCE PRICE: \$29.95

WIN FUNCTIONS: OS/2 Quick Reference Library, Volume 1

by Nora Scholin
(Van Nostrand Reinhold)

Order number 201

MSR: \$19.95

CLEARANCE PRICE: \$14.95

Writing OS/2 2.1 Device Drivers In C, Second Edition/Updated and Revised

by Steven J. Mastrianni, Foreword by John Soyryng
(Van Nostrand Reinhold)

Order number 146

MSR: \$39.95

CLEARANCE PRICE: \$27.50

 **EXPRESS BOOKSHELF**
To order call 1-800-OS2-KWIK

BOOKSTAX

8." This seems sensible enough, but with NUMERIC DIGITS 9 and NUMERIC FUZZ 8, REXX says 13 equals 9, but 14 doesn't. I dunno. (It *looks* to me as though REXX calculates "13=9" as (13-9)-4, then rounds the 4 down to zero so 13 and 9 are equal; 14-9 equals 5, which rounds up to 1, so 14 and 9 aren't considered equal.)

As programs become more complex, interacting with OS/2 and the Workplace Shell, the descriptions and examples Richardson provides serve less well. That's because it's difficult to understand a complex function with a brief description. There are many external functions available to an OS/2 REXX programmer; learning them is mostly a matter of using them. Reading descriptions of SysRegisterObjectClass, SysCreateObject, and SysSetObjectData doesn't really show how they're used to interact with the Workplace Shell. They need to be seen in context.

Examining existing programs can provide these answers. *Writing OS/2 REXX Programs* shines here; almost 200 REXX programs, ranging from trivial to complex, are provided on disk. Twenty-two of them are examined line by line. Richardson explains the purpose of almost every line of these programs.

Debugging is given its own chapter, but it's only five pages—a bit cursory, I think. Richardson introduces TRACE, REXX's built-in debugging assistance, but tracing tends to overpower a beginner with information. Showing how to find a bug in a large program without becoming overwhelmed would be useful to most readers. As the book is targeted to novices, a few words on debugging techniques would also be valuable.

In spite of occasional incompleteness, *Writing OS/2 REXX Programs* is worthwhile for novice REXX programmers. If you've written DOS or OS/2 batch files, or know another programming language, you shouldn't find REXX programming difficult, and this book provides a good foundation for a new skill—one you will frequently find useful. ♦

.....
Alan Jay Weiner develops systems software in Needham, Massachusetts. He can be reached on the Internet at aweiner@bix.com.

Network Management

Help Desk Pavilion

Mobile Computing

LAN/WAN

Interoperability

Enterprise Networking

Network Security

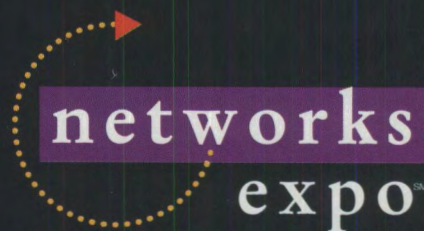
ATM

NPA Hands-On Labs

Client/Server Computing

Internet Hands-On Guided Tour

Corporate Training Program



Previously Known as NetWorld®

networking solutions = networks expo boston '95

February 14-16, 1995
Hynes Convention Center

You don't have to go out of your way to find cutting-edge solutions for today's most critical challenges in network computing. The solutions are here. At Networks Expo Boston. The network computing event that has no equal. Anywhere.

Networks Expo Boston is a hands-on, roll-up-your-sleeves and make-it-work kind of show. Four days of non-stop solutions for virtually every networking need. With more than 300 national and regional exhibitors displaying and demonstrating their newest, most innovative products. And a Corporate Training Program of 12 tutorials and 57 seminars addressing issues ranging from network management to ATM and the Internet.

Register for Networks Expo Boston today. Because nothing equals being there.

For information, call 800.829.3976, ext. 330, 201.346.1400 or fax 201.346.1602, attention Jay Gorga.



Networks Expo is produced and managed by Bruno Blenheim, Inc.
Fort Lee Executive Park • One Executive Drive • Fort Lee, NJ 07024
800.829.3976 • 201.346.1400 • Fax 201.346.1602

Networks Expo™ is a service mark of Bruno Blenheim, Inc.
NetWorld® is a registered trademark of Novell, Inc., which was exclusively licensed to Bruno Blenheim, Inc. and was used by Bruno Blenheim, Inc. as the name of its network computing trade show. That show is now called Networks Expo™.

Networks Expo Dallas '94 • September 20-22 • Dallas Convention Center
Networks Expo San Francisco '95 • May 2-4 • Moscone Convention Center

Circle #183

Of Curves and Clocks

BY JERRY POURNELLE

There's a wonderful new world opening to independent software developers who haven't been eaten by Microsoft. There's also a catch.

First consider the technology curve of the Pentium. In *Strategy of Technology* (University Press, 1970), Stefan Possony and I showed that technology developments proceed in S curves: at first slow development, then breakthrough and rapid improvements, then leveling off again at the top right of the curve; then something else starts a new curve.

The Pentium is at the top right of the development curve.

The next step (which will *not* be called the Sexium) will take a lot of effort. The PowerPC chip, on the other hand, is at the lower left side of its development curve. This has serious implications for software developers. It's a fabulous opportunity—whole new worlds of computer capabilities making possible whole new worlds of software applications. But there are several paths ISVs can take, and it's not clear which is best.

It's not clear because the PowerPC chip's future is controlled by four bodies that don't have identical interests. First there's Motorola: clearly it wants to eat into Intel's market share. Then there's Apple: it has bet the company on the PowerPC, and what it wants is a lot of Macintosh PowerPC killer applications as quickly as possible. Third there's IBM Microelectronics, whose interests are similar to Motorola's. Finally, there's IBM Personal Software Products, which wants to make OS/2 a major player in the operating systems wars. While the people in Austin would rather get fat slicing into Microsoft's market share, they have to take what they can get from wherever they find it.

IBM's conflicts were clearly illustrated at the big PowerPC exhibit at Comdex. There were mini-booths showing applications running on experimental versions of OS/2 for the PowerPC, including both a non-GUI beta and an alpha with GUI code

using Presentation Manager. It was a pretty good alpha, and didn't crash very often, but it was an alpha. There were a lot of Apple Macintosh PowerPC applications, some running on the awesome PowerPC 620 at 120mhz.

There were also exhibits of PowerPC apps running under NT—and there were more of them than there were apps running under OS/2.

In addition to all this, there was a big central exhibit best described as "the Annoyatorium." This extolled the virtues of the PowerPC chip but did it content-free.

Actually, that's not strictly true—if you already knew what the Annoyatorium was trying to say, you could get some information about CISC vs. RISC power curves and such. But you really had to know all about the subject before the exhibit meant much. There was nothing about OS/2. Instead, there was a steam engine train, and if you weren't looking closely you might think the PowerPC is coal-powered.

They didn't have anything showing OS/2 and Macintosh apps running on the same machine and that's supposed to be the killer system of the future.

ISVs now have to choose: write for NT, an operating system that's controlled by a major competitor; write for Windows; write for Apple; or write for OS/2. What's needed is a way to combine the last two. I can think of one such killer app instantly: a super REXX that operates across both OS/2 and Macintosh OS. While they're at it, a Visual Basic/REXX interface would make life easier for a lot of people.

The people at IBM have come a long way since IBM tried to profit from OS/2 Developer Kits. The latest Warp has three disks of video drivers. They're making life easier for users. Now they need to think hard about developers. And the clock is ticking loudly. ♦



The **GammaTech Utilities** are designed to enhance and complement your OS/2 system. These utilities provide the ability to perform vital maintenance and recovery operations easily without extensive technical knowledge. Use **GammaTech Utilities** for your critical data or you might lose it.

LOSE IT

GAMMATECH™

Utilities for OS/2

NEW!
\$99.00*
3.0 VERSION

- Undelete Erased Files
 - Optimize HPFS and FAT Volumes
 - Backup INI and Desktop Files
 - Recover HPFS Volumes
 - Protect and Backup Boot Sectors
 - Identify and Mark Bad Sectors
 - Reconstruct Boot Sectors
 - Protect/Lock Files
 - Permanently Erase Sensitive Data
 - Disk Sector Edit (ASCII or Hex)
 - Alter File Attributes
 - Display File Fragmentation
- NEW-3.00 version features:
- Support for large disk drives (>2 GB)
 - LAN Server 4.0 HPFS 386 Support
 - Backup Super Block and spare blocks
 - Automated HPFS Disk Optimization
 - Graphic Disk Map
 - Plus 200 other enhancements!

(405) 947-8085



(405) 632-6537 fax



SofTouch Systems, Inc., Workstation Division

1300 S Meridian, Suite 600, Oklahoma City, Oklahoma 73108

*Special Price good through March 31, 1995 MSRP: \$149.00

For OS/2 Version 2.1 or 3.0

Specialists Since 1989



COREL DRAW!™

The Best in Graphics For OS/2



THE POWER TO DO IT ALL!

CorelDRAW 2.5 for IBM OS/2 contains easy-to-use CorelDRAW, CorelCHART and Corel PHOTO-PAINT—all in one value-packed box. There's no need to buy any other software packages. CorelDRAW gives you the power to do it all!

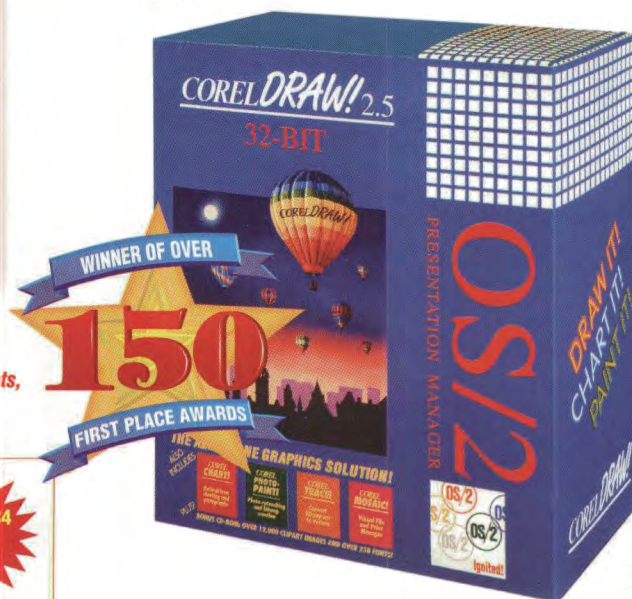
CorelDRAW 2.5 is a 32-bit illustration software program, specifically developed for OS/2. CorelDRAW 2.5 takes full advantage of the power and threading capabilities of OS/2 version 2.0 or higher. Now you can easily create effective slides, flyers, brochures, newsletters, creative designs and technical illustrations—up to 25% faster than ever before.

All this, plus a CD-ROM disc with over 14,000 clipart images and over 250 fonts, makes CorelDRAW the complete graphics solution for OS/2 users.

1-800-THE CITY
1-800-843-2489

Call for the store nearest you or to place an order

\$149.⁸⁴
U.S. Funds
#99-10012



Enter the Corel \$2,000,000 World Design Contest and win! (September to March)
To receive a faxed copy of the contest rules and an entry form please call: 1-613-728-0826 ext. 3080,
Document #1004. To leave a message please call: 1-613-728-0826 ext. 1609.

COREL
1-613-728-3733 ext.13

Circle #5